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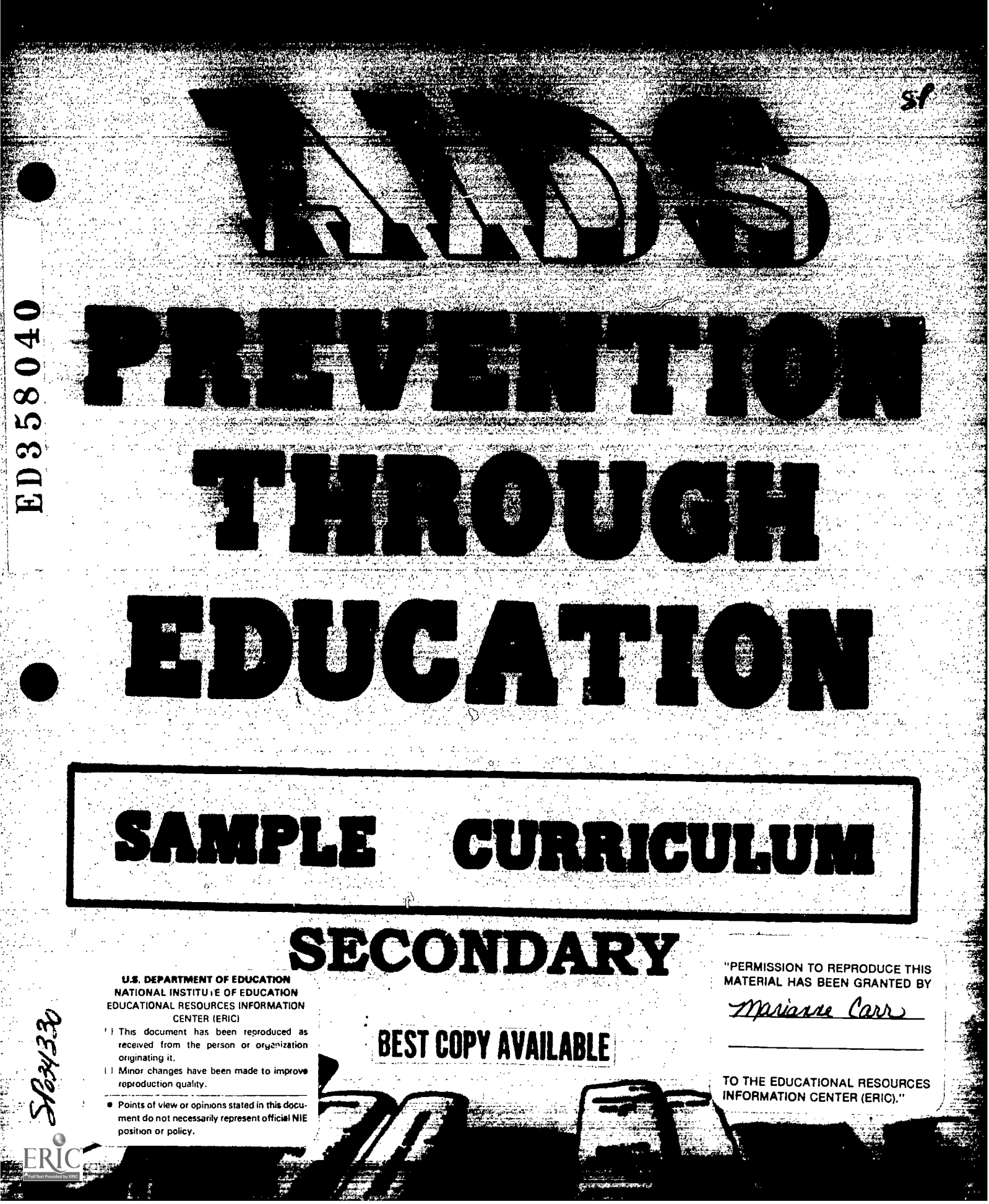
ABSTRACT

This sample curriculum guide has been developed to assist districts in planning and implementing an Acquired Immune Deficiency Syndrome (AIDS) education program. Classes are to be conducted within the context of comprehensive health education. This document, which provides grades 7-12 guidelines, is organized into 8 sections: (1) purpose, planning, and implementation of an AIDS education program, and basic premises underlying AIDS education; (2) steps in the development and implementation of an AIDS education plan; (3) evaluation criteria; (4) South Dakota administrative rule on AIDS education; (5) South Dakota statute on moral instruction; (6) guidelines for effective school health education to prevent the spread of AIDS; (7) basic facts about Human Immunodeficiency Virus (HIV) including statistical tables; and (8) age appropriate sample curricula for grade 7, grade 8, and grades 9-12, which provides goals, expected outcomes, possible activities, and worksheets. Also included is a copy of the Morbidity and Mortality Weekly Report, published by the Centers for Disease Control, entitled "Guidelines for Effective School Health Education to Prevent the Spread of AIDS." (LL)

AIDS PREVENTION THROUGH EDUCATION

SAMPLE CURRICULUM

SECONDARY



AIDS PREVENTION THROUGH EDUCATION

SAMPLE CURRICULUM

A project of the

South Dakota Department of Education
and Cultural Affairs
Division of Education
AIDS Education
700 Governors Drive
Pierre, SD 57501-2291
(605)773-3261

Developed by the

South Dakota Department of Education
and Cultural Affairs
South Dakota Department of Health

November 1988

SOUTH DAKOTA DEPARTMENT OF EDUCATION AND CULTURAL AFFAIRS

DEPARTMENT OF EDUCATION AND CULTURAL AFFAIRS

October 26, 1988

Dear Colleague:

AIDS (Acquired Immune Deficiency Syndrome) is now pandemic in its proportions. At this time no cure or vaccine exists for this disease, and none is anticipated in the near future. Because the South Dakota Board of Education believes that education is virtually the only weapon at hand to combat the spread of the AIDS virus, it has mandated annual AIDS prevention education for students and staff in the K-12 schools of the state.

The South Dakota Board of Education, the South Dakota Division of Education and the Department of Health believe that the most effective AIDS prevention education occurs within the context of comprehensive health education and strongly encourage schools toward that end. However, education about AIDS should be provided as rapidly as possible, even if it is taught initially as a separate subject.

In response to the urgency of the situation, the Division of Education and the Department of Health have collaborated in the development of the enclosed draft of a suggested AIDS Prevention Through Education curriculum. The guidelines are non-regulatory, but are designed to assist districts in planning and implementing an AIDS education program.

We applaud your spirit of cooperation and willingness in getting this important effort underway during school year 1988-89. We hope you find the curriculum guidelines useful in your efforts to implement AIDS prevention education. If we can be of further assistance to you, please feel free to call Instructional Services at 773-4699.

Sincerely,

Henry G. Kosters, Ed.D.
State Superintendent of Education

HGK:KS:gc

enclosure

State Superintendent's Office
Division of Education, 700 Governors Drive, Pierre, SD 57501-2293 (605) 773-3243

South Dakota
Sample Curriculum
for
AIDS Prevention Through Education

TABLE OF CONTENTS

PLANNING AND IMPLEMENTING EFFECTIVE SCHOOL HEALTH EDUCATION ABOUT AIDS

South Dakota's public and private schools have the capacity and responsibility to help assure that young people understand the nature of the AIDS epidemic and the specific actions they can take to prevent HIV infection, especially during their adolescence and young adulthood. The specific scope and content of AIDS education in schools should be locally determined and should be consistent with parental and community values. **The school education effort is directed towards maintaining our state's enviable reputation as a low-incidence state. South Dakota does not have a high rate of AIDS infection -- let us work together to preserve that status.**

Because AIDS is a fatal disease and because educating young people about becoming infected through sexual contact can be controversial, school systems should obtain **broad community participation** to ensure that school health education policies and programs to prevent the spread of AIDS are locally determined and are consistent with community values.

The development of school district policies on AIDS education can be an important first step in developing an AIDS education program. In each community, representatives of the school board, parents, school administrators and faculty, local medical personnel students, minority groups, religious organizations, and other relevant organizations can be involved in developing policies for school health education to prevent the spread of AIDS. The process of policy development can enable these representatives to resolve various perspectives and opinions, to establish a commitment for implementing and maintaining AIDS education programs, and to establish standards for AIDS education program activities and materials. Some communities already have school health committees that include representatives from the aforementioned groups. Such groups facilitate the development of a broad base of community expertise and input, and they enhance the coordination of various activities within the comprehensive school health program.

AIDS education programs should be developed to address the needs and the developmental levels of students and to address specific needs of minorities, persons for whom English is not the primary language, and persons with visual or hearing impairments or other learning disabilities. Plans for providing effective school health education about AIDS at each grade, including educational materials to be used, should be reviewed by representatives of the school board, appropriate school administrators, teachers, and parents before being implemented.

Education about AIDS may be most appropriate and effective when carried out within a comprehensive school health education program that establishes a foundation for understanding the relationships between personal behavior and health. For example, education about AIDS may be more effective when students at appropriate ages are more knowledgeable about sexually transmitted diseases, drug abuse, and community health. It may also have greater impact when they have opportunities to develop such qualities as decision-making and communication skills, resistance to persuasion, and a sense of self-efficacy and self-esteem. However, education about AIDS should be provided as rapidly as possible, even if it is taught initially as a separate subject.

A sample scope-and-sequence is included in the appendices of this document.

PURPOSES OF AN AIDS EDUCATIONAL PROGRAM

The Centers for Disease Control suggest these general guidelines as purposes of an AIDS education program:

The principle purpose of education about AIDS is to prevent HIV infection. The content of AIDS education...should address the broad range of behavior exhibited by young people. Educational programs should assure that young people acquire the knowledge and skills they will need to adopt and maintain types of behavior that virtually eliminate their risk of becoming infected.

At the secondary level, school systems should make programs available that will enable and encourage young people who have not engaged in sexual intercourse and who have not used illicit drugs to continue to --

- Abstain from sexual intercourse until they are ready to establish a mutually monogamous relationship within the context of marriage.

- Refrain from using or injecting illicit drugs.

For young people who have engaged in sexual intercourse or who have injected illicit drugs, school programs should enable and encourage them to

- Stop engaging in sexual intercourse until they are ready to establish a mutually monogamous relationship within the context of marriage.

- Stop using or injecting illicit drugs.

Despite all efforts, some young people may remain unwilling to adopt behavior that would virtually eliminate their risk of becoming infected. Therefore, school systems, in consultation with parents and health officials, should provide AIDS education programs that address preventive types of behavior that should be practiced by those with an increased risk of HIV infection. These include:

- Avoiding sexual intercourse with anyone who is known to be infected or who is at risk of being infected or whose HIV infection status is not known.

- Using a latex condom with spermicide if they engage in sexual intercourse.

- Seeking treatment if addicted to illicit drugs.

- Not sharing needles or other injection equipment.

- Seeking HIV counseling and testing if HIV infection is suspected.

State and local education and health agencies should work together to assess the prevalence of these types of risk behavior, and their determinants, over time.

BASIC PREMISES UNDERLYING AIDS EDUCATION

Teaching positive health behaviors such as self-esteem, respect for others, and decision making will help students understand the immediate and long-term benefits of abstaining from sexual activity and illegal drug use. The students' learning and practicing positive health behaviors will be as important to them as their acquisition of knowledge.

- AIDS instruction is a shared responsibility. Its success will depend upon the cooperation of all school personnel and the participation of the home and the community.

- For the immediate future, educators will be faced with the challenge of reaching secondary students who need to know about AIDS but who may have already taken their health education courses. These students, too, will need to receive AIDS instruction.

- Knowledge about AIDS is continuously changing. Reasonable means for updating the knowledge base of school personnel are a necessity for accurate instruction.

- AIDS instruction will require dealing with the concerns of some community members about addressing sensitive, personal, lifestyle issues in the classroom.

- Educators will need to provide for AIDS instruction that is age-appropriate, is consistent with community values, and stresses abstinence as the most appropriate and effective premarital protection against AIDS.

- Educators will need to address the challenge of teaching issues that involve moral decisions, values, and personal feelings.

STEPS IN PROCESS TO DEVELOP AND IMPLEMENT AIDS EDUCATION PLAN

The process that a local school district follows to develop an AIDS instructional program is a crucial link between local needs and recommendations and requirements put forth by the State Board of Education. An effective process enables school districts to tailor the instructional program to the particular needs of their students and involve the community in ways that can best meet the educational goals.

Though the nature and content of AIDS instruction in schools require a larger and more diverse group to be involved in curriculum planning, and though the local board of education has ultimate authority to approve all programs, there are common procedures to be followed in the development of curriculum for any subject. The steps for undertaking this process for AIDS education are summarized below:

1. Designate an AIDS Advisory Council
2. Review current materials (State Board rule, Division of Education recommendations, related materials currently in use in district)
3. Conduct a needs assessment and establish priorities
4. Identify resources (school and community)
5. Develop an AIDS instructional philosophy
6. Develop an AIDS instructional program
7. Conduct community awareness activities
8. Conduct staff training
9. Implement the AIDS instructional program
10. Evaluate, update, and revise the program.

An AIDS education program deals with complex societal and personal values and issues; and discussion about an AIDS instructional program may touch on personal, religious, cultural, and moral perspectives. So initial and continuous communication on all aspects of the intended program are of the utmost importance. The process of developing an AIDS education program requires time, cooperation, and the participation of many people from the school, the home, and the community.

The 10 steps explained below are in keeping with the basic belief that schools are in partnership with parents and the community. The steps allow for and encourage the participation of many people before the board of education makes decisions about an AIDS education program, and for sharing information with many more after the plan is finalized and ready to implement.

1. **Designate an AIDS Advisory Council**

It is recommended that an AIDS Advisory Council be appointed, consisting of those who will be affected by the decisions to be made, specifically, school board members, district -wide and building-level administrators, health-related school personnel, elementary and secondary teachers, parents, students, representatives from religious organizations, and medical professionals. It is helpful to include a broad spectrum of the community and to establish specific reporting procedures for the AIDS Education Advisory Council.

Some kind of organizational structure needs to be established. This will vary, depending upon the size and complexity of the school district. It may be desirable to have subgroups for elementary and secondary levels. If so, it is essential to provide a means for regular communication between the two since the integration of the total curriculum is important.

Districts may want to assign the Advisory Council the responsibility of making recommendations along each of the steps in the process, or staff may seek recommendations concerning content, implementation, and evaluation of an AIDS instructional program. In either case, carrying out all steps in the program process will insure a comprehensive planning process.

2. Review Current Materials

A survey of current materials is essential. It is best to collect and make available for group discussion before the assigned task is undertaken. A collection of materials might include:

- State laws, regulations, and recommendations affecting curriculum;
- Previous local school board resolutions or recommendations regarding health education, AIDS education, substance abuse education, family life education, and related topics;
- The most recent information about AIDS prevention from health organizations (available from Communicable Disease Program, Pierre, and/or Division of Education, Pierre);
- All existing health education curricula used by the district for any grade level (including statements of philosophy);
- Any special AIDS-related projects carried out in the district thus far (speakers, films, brochures);
- Books and periodical literature pertaining to health, substance abuse, family life education, etc., included in teacher and/or student libraries in districts.

A review of existing health education materials and activities in the school district provides information about the health education program into which AIDS instruction will be integrated, as well as information about activities specifically related to AIDS.

3. Conduct a Needs Assessment and Establish Priorities

A needs assessment is a vital part of educational planning and evaluation

determination of what is presently in place and what must be done to reach the end desired--in this case, AIDS instruction. For AIDS instruction, there is a concern about specific problems, such as preventing the further spread of HIV infection, dealing with unwarranted fear about AIDS and its transmission, and promoting positive health behaviors for students.

The assessment of needs and resources is a crucial task. There are a number of ways to conduct this assessment, and a combination of procedures will most likely yield the most comprehensive results. For example:

a. Surveys

Surveys can reveal valuable information about how AIDS is perceived by a community, and can help identify school staff and members of the community who could be called upon to assist in further planning efforts.

Surveys can be conducted of:

- students
- faculty
- other school staff
- parents/guardians
- the community at large

Surveys may be used to gather information on:

- staff knowledge, needs, and interests related to AIDS education, substance abuse education, and family life education

- parent/guardian and community knowledge, attitudes and values regarding AIDS education, substance abuse education, and family life education

- student knowledge about AIDS.

Surveys should be accompanied by a cover letter that explains the planning effort of the school district and how the information will be used. For those with limited English proficiency, such a cover letter may need to be translated into native language.

b. Statistical Data

Statistical data that should be collected include:

- data on the magnitude of the AIDS problem and HIV infection

- data on the impact of this disease on social, medical, and financial institutions
- school and community data regarding child sexual abuse, substance abuse, adolescent pregnancy, etc.

- data on school problems such as absenteeism, suspensions, dropouts.

c. Community Awareness

Meetings should be held to inform the community that a concerted effort is being made to address the AIDS epidemic and to provide the community with a forum for discussing its concerns with respect to AIDS instruction. These concerns need to be incorporated within the data-gathering responsibility.

The district's needs assessment, once completed with items ranked according to priorities, provides the basis for instructional planning. The needs-assessment process is also an excellent method of creating awareness of the complementary roles of school, community, and parents/guardians in addressing this health crisis. Local data has far greater impact than national or state statistics.

4. Identify Resources (school and community)

Concurrent with conducting a needs assessment, resources within the school and community should be identified for AIDS instruction. It would be helpful to identify the:

- school personnel prepared to teach AIDS (health educators, school nurse-teachers, special education teachers, pupil personnel staff) and/or interested in being trained to teach AIDS;

- community resources available to assist existing instructional personnel with AIDS instruction (community AIDS organizations/specialists, religious organizations, public health offices, health care organizations, family planning agencies, local chapters of American Red Cross, substance abuse agencies, physicians, nurses);

- teaching materials available or needed to supplement AIDS instruction (audiovisual materials, print materials, existing curricula for health education, substance abuse education, and family life education).

5. Develop an AIDS Instructional Philosophy

The next step is the preparation of a statement of philosophy for AIDS instruction. The philosophy should be consistent with the philosophy of health education reflecting the specific needs and values of the school district, the students, and the community. This philosophy will guide the instructional program. It is recommended that the school district's instructional philosophy about AIDS stress positive values and behaviors in which students learn to:

- respect themselves and respect others

- value nurturing relationships which occur within families

- behave in ways that promote healthy growth and development

- behave in ways that reduce risk by avoiding acts which may bring harm or injury

- be responsible for their own behavior and its consequences

- abstain from sex, and understand that postponing sexual activity until adulthood increases one's positive life choices for career and marriage

- abstain from illegal drug use.

Instruction about AIDS is best provided within a context of positive teaching about health and personal responsibility.

6. Develop an AIDS Instructional Program

a. Select Objectives

In order to select grade-level objectives for AIDS instruction, it will be helpful to review the four concepts of AIDS education. The four concepts are:

- There are some diseases that are communicable diseases. AIDS is a communicable disease.

- There are decision-making and refusal skills to practice that will lead to a healthful lifestyle, and there are methods of prevention for AIDS.

- There are social and economic implications of AIDS.

- There are community resources for information, help, and counseling.

When deciding how these concepts (or other locally-selected concepts) will be addressed at each grade level, it will be necessary to consider whether or not similar objectives are already being addressed in the health education program. For example, students at the K-3 level may be learning how to establish good health practices (such as hand washing) in their daily routines. Students in grades 7-12 may be learning about the effects of alcohol, tobacco, and other drug substances. These objectives within health education can be used to introduce--and/or expanded to include--some of the objectives related to AIDS prevention.

In another example, lessons from a district's child abuse prevention program may be correlated to parts of the AIDS instructional program. Students may be at risk for exposure to AIDS through activities involving sexual abuse.

Elementary students also are learning about their responsibilities as members of families and communities, not only within the health education program but through other curriculum areas as well. For example, in social studies students learn about their role and that of others at home and at school, in safety education they learn about rules at home and at school, and in all subject areas they learn that they have responsibilities. These values can be built upon to help students understand responsibilities for self and others, thus building on the objectives for AIDS education taught in the health program.

A suggested scope-and-sequence is included in the appendices of this document.

b. Recommend Content, Methods, and Activities and Describe Behaviors Anticipated

Once the grade-level objectives have been determined for AIDS instruction it is necessary to delineate the specific content that will be introduced and/or reinforced to meet the objectives. It will also be necessary to decide on methods of introducing/reinforcing the content, the specific activities in which students will engage, materials to be used, and program evaluation techniques.

For example, the sample scope-and-sequence suggests that students in grade 5 will understand the body's reproductive system. One school district may determine that this is, indeed, appropriate content for students in grade 5. Another school district may determine that understanding the body's reproductive system is too sophisticated a topic for its students in grade 5 but would be appropriate for students in grade 6, and still another school district may determine that while the content is appropriate for students in grade 5, simpler language should be used.

The school district will decide what the anticipated behavior of students will be after instruction takes place. In the example given above, the positive health behavior anticipated is that "students will reduce their own exposure to infection." It is recommended that AIDS instruction occur in a classroom-sized setting (small group), with ample time allowed for questions and discussion. The nature of the content does not make a large group setting advisable.

The Divisions of Education and Health Services will provide a sample set of classroom activities as well as a listing of suggested classroom materials. This will be correlated to the sample scope-and-sequence included the appendices of this document.

c. Initial Field-Test of Curriculum

It is important to consider the first year as a "field-test" for classroom teachers and to provide an opportunity to share information that may improve the draft curriculum for the second and succeeding years.

d. Revise Curriculum

Revisions may need to be made to the curriculum based on the initial use and reviews by selected administrators and teachers. Later revisions may be necessary after the curriculum has been used by all teachers and other school staff who will need to review the content, as medical knowledge about AIDS changes and as the district learns from classroom experiences.

7. Conduct Community Awareness Activities

After initial awareness (see step 3C), specific instruction-related awareness is important, especially for parents and other interested community members.

Introducing new AIDS instruction to parents and community members before using the program with students is critical to gain support for the overall program and for successful implementation of the program in the classroom. It is essential to present a clear picture about the need for the instruction, the decision-making process used, the philosophy adopted, the goals and objectives to be used, and the content to be stressed. Parents and members of the community will need to be help up-to-date on the efforts being made to; a) incorporate AIDS instruction into the district's comprehensive health education program. This can be done through open housesin local school buildings/classrooms, evening informational sessions, parent newsletters and other communication methods a district may now have in place. Special outreach efforts should be made to reach parents not clearly associated with school activities or who may need information translated into their native language. Community-based organizations and religious organizations working and serving diverse parent constituencies can be helpful in this outreach effort.

Special note:

Parents will also need to know how to access materials from the school to assist them in providing their children with AIDS instruction should they desire to do this. Parents should also be informed of their right and the procedure to follow in accepting full responsibility for provision of their child's education in AIDS prevention. The school is advised to maintain a file of signed statements from parents who wish to be fully responsible for their child's AIDS education, and to provide classroom teachers with procedures and options for alternate location and activities.

It is suggested that the parents-accept-full-responsibility philosophy be utilized, versus a I-don't-want-my-child-to-receive-AIDS-instruction attitude. Schools are advised to prepare for a few situations of this nature in advance, rather than allow a single situation to inflame an entire community. A form to use with parents who want to accept full responsibility for their child's AIDS education is attached in the appendix.

8. Conduct Staff Training

In order to assure that AIDS instruction will be effective, comprehensive and ongoing, training must be provided for the staff. Accurate scientific information, a common framework for providing AIDS instruction, and grade-level objectives and implementation strategies are all essential elements to a successful instructional program. Teachers will need to increase competencies in working with the knowledge, skills, and attitudes required for AIDS instruction to reach a comfort-level which will be effective in the classroom.

The Division of Education and the Division of Public Health, Pierre, will implement a statewide training program for teachers and trainers (preferably health educators) during school-year 1988-89.

Funded by Centers for Disease Control, the program is designed to provide a base of AIDS educators statewide, but will not necessarily meet the needs of all districts, depending on the local AIDS education plan.

Details of the training program are included in the appendices of this document; districts are urged to study them carefully before making local plans for staff training.

It is recommended that AIDS instruction be taught by trained regular classroom teachers at the elementary level, and by trained health educators at the secondary level.

9. Implement the AIDS Instructional Program

Classroom teachers and other school personnel responsible for implementation will need assistance in the form of ongoing in-service and technical assistance. Regular feedback from those implementing the program is essential to determine if further revisions or clarifications to the AIDS instructional program are needed.

10. Evaluate, Update, and Revise the Program

Evaluation is the process by which a district identifies the effectiveness of the program. Evaluation will focus on the components of the program such as the objectives, the learner outcomes, and the suggested activities.

Evaluation methods for AIDS education are similar to those for health education and may include:

- observations
- anecdotal records
- objective pretests and posttests
- attitudinal inventories
- interviews
- surveys and questionnaires
- checklists
- health data analyses
- self-assessments
- teacher-developed tests.

The methods selected for a particular evaluation activity will vary according to the purpose of the task. In most instances, a combination of objective records and subjective judgments is used. When a variety of procedures are used and consistent patterns are observed, the evaluation is considered to be more reliable than when only one technique is used.

Evaluation is an ongoing process. Data should be gathered periodically and analyzed in relation to defined program objectives and outcomes. Program modifications should be made, as necessary, and training should be provided whenever program changes are made.

SAMPLE CRITERIA FOR EVALUATING AN AIDS EDUCATION PROGRAM

- Are parents, students, health professionals, and appropriate community representatives involved in developing, field-testing, implementing, and assessing the program?

- Is the program implemented as an integral part of a comprehensive K-12 school health education program?

- If the district does not have a comprehensive health program, is a comprehensive AIDS education program implemented K-12?

- Does the program fairly represent the values and more of the community?

- Is the program clearly communicated to both staff and community?

- Is adequate training provided for those responsible for instruction about AIDS, including school administrators, teachers, nurses and counselors?

- Is the program taught by regular classroom teachers at the elementary level, and by teachers who are trained and qualified at the secondary level?

- Is the program designed to help teenage students recognize the need to avoid specific behaviors that increase the risk of contracting AIDS?

- Does the program describe the stress the benefits of abstinence for young people, and mutually monogamous relationships for adults?

- Is the program designed to help students acquire essential knowledge and skills to protect themselves from the risk of contracting AIDS if they are sexually active?

- Is the program designed to help students acquire essential knowledge and skills to protect themselves from becoming drug abusers or to protect themselves from the risk of contracting AIDS if they are drug abusers?

- Is the program sensitive to young people's stages of psycho-social development with careful attention to ethno-cultural differences among students?

- Are sufficient program development time, classroom time, and instructional materials provided for education about AIDS?

- Is someone assigned to monitor the most recent data to keep the program up to date with current developments?

- Is there adequate financial support to ensure continuation of the program?

- Is there a process established for conducting this evaluation?

CENTERS FOR DISEASE CONTROL

January 29, 1988 / Vol. 37 / No. S-2

MMWR

Supplement

MORBIDITY AND MORTALITY WEEKLY REPORT

Guidelines for Effective School Health Education To Prevent the Spread of AIDS

U.S. Department of Health and Human Services
Public Health Service
Centers for Disease Control
Center for Health Promotion and Education
Atlanta, Georgia 30333

SOUTH DAKOTA BOARD OF EDUCATION
ADMINISTRATIVE RULE ON AIDS EDUCATION

24:03:06:22. AIDS education plan. The local school board or governing body of each school system must approve and implement a comprehensive plan for effective education about acquired immunodeficiency syndrome (AIDS).

The plan must include AIDS instruction which is scientifically accurate, age-appropriate, and reflective of community values for all students in grades K-12 and for all employees of the school system. The plan must require annual instruction of students and employees. After the effective date of this amendment, the plan must include instruction which is intended to impress upon the mind of students the importance of sexual abstinence.

The local school board shall amend its comprehensive AIDS education plan to reflect the requirements of this section and shall submit the revised plan to the division of education by January 15, 1993. Thereafter, the local school board or governing body shall review, amend if desired or necessary, and reapprove the plan by September 15 of each school term the school system is scheduled for an on-site accreditation review. The AIDS education plan for students and employees must be available for review by the division of education and the department of health upon request.

Curriculum and materials for AIDS instruction shall be determined by the local school board or governing body in accordance with local curriculum development and textbook selection policies as required in subdivision 24:03:04:08(7).

In-service training for teachers and other school staff regarding AIDS instruction shall be determined by the local school board or governing body in accordance with local in-service and staff development policies as required in subdivision 24:03:04:08(13). (Revised August, 1992)

SOUTH DAKOTA STATUTE ON MORAL INSTRUCTION

13-33-6. Moral instruction required - Promulgation of rules to prescribe a course of study. In addition to other courses, special moral and character instruction shall be given in all public and nonpublic elementary and secondary schools in the state that is intended to impress upon the minds of students the importance of truthfulness, temperance, purity, sexual abstinence, AIDS instruction, public spirit, patriotism, citizenship, respect for honest labor, obedience to parents, respect for the contributions of minority and ethnic groups to the heritage of South Dakota and due deference to old age.

The South Dakota board of Education shall promulgate rules pursuant to chapter 1-26 to prescribe a course of study for the instruction required by this section. (Revised February, 1992)

Supplements to the *MMWR* are published by the Epidemiology Program Office, Centers for Disease Control, Public Health Service, U.S. Department of Health and Human Services, Atlanta, Georgia 30333.

SUGGESTED CITATION

Centers for Disease Control. Guidelines for Effective School Health Education To Prevent the Spread of AIDS. *MMWR* 1988;37 (suppl. no. S-2):[inclusive page numbers].

Guidelines for Effective School Health Education To Prevent the Spread of AIDS

Introduction

Since the first cases of acquired immunodeficiency syndrome (AIDS) were reported in the United States in 1981, the human immunodeficiency virus (HIV) that causes AIDS and other HIV-related diseases has precipitated an epidemic unprecedented in modern history. Because the virus is transmitted almost exclusively by behavior that individuals can modify, educational programs to influence relevant behavior can be effective in preventing the spread of HIV (*1-5*).

The guidelines below have been developed to help school personnel and others plan, implement, and evaluate educational efforts to prevent unnecessary morbidity and mortality associated with AIDS and other HIV-related illnesses. The guidelines incorporate principles for AIDS education that were developed by the President's Domestic Policy Council and approved by the President in 1987 (see Appendix I).

The guidelines provide information that should be considered by persons who are responsible for planning and implementing appropriate and effective strategies to teach young people about how to avoid HIV infection. These guidelines should not be construed as rules, but rather as a source of guidance. Although they specifically were developed to help **school personnel**, personnel from other organizations should consider these guidelines in planning and carrying out effective education about AIDS for youth who do not attend school and who may be at high risk of becoming infected. As they deliberate about the need for and content of AIDS education, educators, parents, and other concerned members of the community should consider the prevalence of behavior that increases the risk of HIV infection among young people in their communities. Information about the nature of the AIDS epidemic, and the extent to which young people engage in behavior that increases the risk of HIV infection, is presented in Appendix II.

Information contained in this document was developed by CDC in consultation with individuals appointed to represent the following organizations:

American Academy of Pediatrics
American Association of School Administrators
American Public Health Association
American School Health Association
Association for the Advancement of Health Education
Association of State and Territorial Health Officers
Council of Chief State School Officers
National Congress of Parents and Teachers
National Council of Churches

National Education Association
National School Boards Association
Society of State Directors of Health, Physical Education, Recreation and Dance
U S. Department of Education
U S Food and Drug Administration
U S. Office of Disease Prevention and Health Promotion

Consultants included a director of health education for a state department of education, a director of curriculum and instruction for a local education department, a health education teacher, a director of school health programs for a local school district, a director of a state health department, a deputy director of a local health department, and an expert in child and adolescent development.

Planning and Implementing Effective School Health Education about AIDS

The Nation's public and private schools have the capacity and responsibility to help assure that young people understand the nature of the AIDS epidemic and the specific actions they can take to prevent HIV infection, especially during their adolescence and young adulthood. The specific scope and content of AIDS education in schools should be locally determined and should be consistent with parental and community values.

Because AIDS is a fatal disease and because educating young people about becoming infected through sexual contact can be controversial, school systems should obtain broad community participation to ensure that school health education policies and programs to prevent the spread of AIDS are locally determined and are consistent with community values.

The development of school district policies on AIDS education can be an important first step in developing an AIDS education program. In each community, representatives of the school board, parents, school administrators and faculty, school health services, local medical societies, the local health department, students, minority groups, religious organizations, and other relevant organizations can be involved in developing policies for school health education to prevent the spread of AIDS. The process of policy development can enable these representatives to resolve various perspectives and opinions, to establish a commitment for implementing and maintaining AIDS education programs, and to establish standards for AIDS education program activities and materials. Many communities already have school health councils that include representatives from the aforementioned groups Such councils facilitate the development of a broad base of community expertise and input, and they enhance the coordination of various activities within the comprehensive school health program (6).

AIDS education programs should be developed to address the needs and the developmental levels of students and of school-age youth who do not attend school, and to address specific needs of minorities, persons for whom English is not the primary language, and persons with visual or hearing impairments or other learning disabilities Plans for addressing students' questions or concerns about AIDS at the early elementary grades as well as for providing effective school health education about AIDS each grade from late elementary/middle school through junior high/senior high school, including educational materials to be used, should be reviewed by representatives of the school board, appropriate school administrators, teachers, and parents before being implemented.

Education about AIDS may be most appropriate and effective when carried out within a more comprehensive school health education program that establishes a foundation for understanding the relationships between personal behavior and health (7-9). For example, education about AIDS may be more effective when students at appropriate ages are more knowledgeable about sexually transmitted diseases, drug abuse, and community health It may also have greater impact when they have opportunities to develop such qualities as decision-making and communication skills, resistance to persuasion, and a sense of self-efficacy and self-esteem However, education about AIDS should be provided as rapidly as possible, even if it is taught initially as a separate subject.

State departments of education and health should work together to help local departments of education and health throughout the state collaboratively accomplish effective school health education about AIDS. Although all schools in a state should provide effective education about AIDS, priority should be given to areas with the highest reported incidence of AIDS cases.

Preparation of Education Personnel

A team of representatives including the local school board, parent-teachers associations, school administrators, school physicians, school nurses, teachers, educational support personnel, school counselors, and other relevant school personnel should receive general training about a) the nature of the AIDS epidemic and means of controlling its spread, b) the role of the school in providing education to prevent transmission of HIV, c) methods and materials to accomplish effective programs of school health education about AIDS, and d) school policies for students and staff who may be infected. In addition, a team of school personnel responsible for teaching about AIDS should receive more specific training about AIDS education. All school personnel, especially those who teach about AIDS, periodically should receive continuing education about AIDS to assure that they have the most current information about means of controlling the epidemic, including up-to-date information about the most effective health education interventions available State and local departments of education and health, as well as colleges of education, should assure that such in service training is made available to all schools in the state as soon as possible and that continuing in-service and pre-service training is subsequently provided. The local school board should assure that release time is provided to enable school personnel to receive such in service training

Programs Taught by Qualified Teachers

In the elementary grades, students generally have one regular classroom teacher In these grades, education about AIDS should be provided by the regular classroom teacher because that person ideally should be trained and experienced in child development, age-appropriate teaching methods, child health, and elementary health education methods and materials In addition, the elementary teacher usually is sensitive to normal variations in child development and aptitudes in a class In the secondary grades, students generally have a different teacher for each subject In

these grades, the secondary school health education teacher preferably should provide education about AIDS, because a qualified health education teacher will have training and experience in adolescent development, age appropriate teaching methods, adolescent health, and secondary school health education methods and materials (including methods and materials for teaching about such topics as human sexuality, communicable diseases, and drug abuse). In secondary schools that do not have a qualified health education teacher, faculty with similar training and good rapport with students should be trained specifically to provide effective AIDS education.

Purpose of Effective Education about AIDS

The principal purpose of education about AIDS is to prevent HIV infection. The content of AIDS education should be developed with the active involvement of parents and should address the broad range of behavior exhibited by young people. Educational programs should assure that young people acquire the knowledge and skills they will need to adopt and maintain types of behavior that virtually eliminate their risk of becoming infected.

School systems should make programs available that will enable and encourage young people who have not engaged in sexual intercourse and who have not used illicit drugs to continue to –

- Abstain from sexual intercourse until they are ready to establish a mutually monogamous relationship within the context of marriage;
- Refrain from using or injecting illicit drugs.

For young people who have engaged in sexual intercourse or who have injected illicit drugs, school programs should enable and encourage them to –

- Stop engaging in sexual intercourse until they are ready to establish a mutually monogamous relationship within the context of marriage;
- To stop using or injecting illicit drugs.

Despite all efforts, some young people may remain unwilling to adopt behavior that would virtually eliminate their risk of becoming infected. Therefore, school systems, in consultation with parents and health officials, should provide AIDS education programs that address preventive types of behavior that should be practiced by persons with an increased risk of acquiring HIV infection. These include:

- Avoiding sexual intercourse with anyone who is known to be infected, who is at risk of being infected, or whose HIV infection status is not known;
- Using a latex condom with spermicide if they engage in sexual intercourse;
- Seeking treatment if addicted to illicit drugs;
- Not sharing needles or other injection equipment;
- Seeking HIV counseling and testing if HIV infection is suspected

State and local education and health agencies should work together to assess the prevalence of these types of risk behavior, and their determinants, over time.

Content

Although information about the biology of the AIDS virus, the signs and symptoms of AIDS, and the social and economic costs of the epidemic might be of interest, such information is not the essential knowledge that students must acquire in order to prevent becoming infected with HIV. Similarly, a single film, lecture, or school assembly about AIDS will not be sufficient to assure that students develop the complex understanding and skills they will need to avoid becoming infected.

Schools should assure that students receive at least the essential information about AIDS, as summarized in sequence in the following pages, for each of three grade level ranges. The exact grades at which students receive this essential information should be determined locally, in accord with community and parental values, and thus may vary from community to community. Because essential information for students at higher grades requires an understanding of information essential for students at lower grades, secondary school personnel will need to assure that students understand basic concepts before teaching more advanced information. Schools simultaneously should assure that students have opportunities to learn about emotional and social factors that influence types of behavior associated with HIV transmission.

Early Elementary School

Education about AIDS for students in early elementary grades principally should be designed to allay excessive fears of the epidemic and of becoming infected.

AIDS is a disease that is causing some adults to get very sick, but it does not commonly affect children.

AIDS is very hard to get. You cannot get it just by being near or touching someone who has it.

Scientists all over the world are working hard to find a way to stop people from getting AIDS and to cure those who have it.

Late Elementary/Middle School

Education about AIDS for students in late elementary/middle school grades should be designed with consideration for the following information.

Viruses are living organisms too small to be seen by the unaided eye.

Viruses can be transmitted from an infected person to an uninfected person through various means.

Some viruses cause disease among people.

Persons who are infected with some viruses that cause disease may not have any signs or symptoms of disease.

AIDS (an abbreviation for acquired immunodeficiency syndrome) is caused by a virus that weakens the ability of infected individuals to fight off disease

People who have AIDS often develop a rare type of severe pneumonia, a cancer called Kaposi's sarcoma, and certain other diseases that healthy people normally do not get.

About 1 to 1.5 million of the total population of approximately 240 million Americans currently are infected with the AIDS virus and consequently are capable of infecting others.

People who are infected with the AIDS virus live in every state in the United States and in most other countries of the world. Infected people live in cities as well as in suburbs, small towns, and rural areas. Although most infected people are adults, teenagers can also become infected. Females as well as males are infected. People of every race are infected, including whites, blacks, Hispanics, Native Americans, and Asian/Pacific Islanders.

The AIDS virus can be transmitted by sexual contact with an infected person; by using needles and other injection equipment that an infected person has used; and from an infected mother to her infant before or during birth.

A small number of doctors, nurses, and other medical personnel have been infected when they were directly exposed to infected blood.

It sometimes takes several years after becoming infected with the AIDS virus before symptoms of the disease appear. Thus, people who are infected with the virus can infect other people – even though the people who transmit the infection do not feel or look sick.

Most infected people who develop symptoms of AIDS only live about 2 years after their symptoms are diagnosed.

The AIDS virus cannot be caught by touching someone who is infected, by being in the same room with an infected person, or by donating blood.

Junior High/Senior High School

Education about AIDS for students in junior high/senior high school grades should be developed and presented taking into consideration the following information.

The virus that causes AIDS, and other health problems, is called human immunodeficiency virus, or HIV.

The risk of becoming infected with HIV can be virtually eliminated by not engaging in sexual activities and by not using illegal intravenous drugs.

Sexual transmission of HIV is not a threat to those uninfected individuals who engage in mutually monogamous sexual relations.

HIV may be transmitted in any of the following ways: a) by sexual contact with an infected person (penis/vagina, penis/rectum, mouth/vagina, mouth/penis, mouth/rectum), b) by using needles or other injection equipment that an infected person has used; c) from an infected mother to her infant before or during birth.

A small number of doctors, nurses, and other medical personnel have been infected when they were directly exposed to infected blood.

The following are at increased risk of having the virus that causes AIDS and consequently of being infectious: a) persons with clinical or laboratory evidence of infection; b) males who have had sexual intercourse with other males; c) persons who have injected illegal drugs; d) persons who have had numerous sexual partners, including male or female prostitutes; e) persons who received blood clotting products before 1985; f) sex partners of infected persons or persons at increased risk; and g) infants born to infected mothers.

The risk of becoming infected is increased by having a sexual partner who is at increased risk of having contracted the AIDS virus (as identified previously), practicing sexual behavior that results in the exchange of body fluids (i.e., semen, vaginal secretions, blood), and using unsterile needles or paraphernalia to inject drugs.

Although no transmission from deep, open-mouth (i.e., "French") kissing has been documented, such kissing theoretically could transmit HIV from an infected to an uninfected person through direct exposure of mucous membranes to infected blood or saliva.

In the past, medical use of blood, such as transfusing blood and treating hemophiliacs with blood clotting products, has caused some people to become infected with HIV. However, since 1985 all donated blood has been tested to determine whether it is infected with HIV; moreover, all blood clotting products have been made from screened plasma and have been heated to destroy any HIV that might remain in the concentrate. Thus, the risk of becoming infected with HIV from blood transfusions and from blood clotting products is virtually eliminated. Cases of HIV infection caused by these medical uses of blood will continue to be diagnosed, however, among people who were infected by these means before 1985.

Persons who continue to engage in sexual intercourse with persons who are at increased risk or whose infection status is unknown should use a latex condom (not natural membrane) to reduce the likelihood of becoming infected. The latex condom must be applied properly and used from start to finish for every sexual act. Although a latex condom does not provide 100% protection – because it is possible for the condom to leak, break, or slip off – it provides the best protection for people who do not maintain a mutually monogamous relationship with an uninfected partner. Additional protection may be obtained by using spermicides that seem active against HIV and other sexually transmitted organisms in conjunction with condoms.

Behavior that prevents exposure to HIV also may prevent unintended pregnancies and exposure to the organisms that cause Chlamydia *infection, gonorrhea, herpes, human papillomavirus, and syphilis.*

Persons who believe they may be infected with the AIDS virus should take precautions not to infect others and to seek counseling and antibody testing to determine whether they are infected. If persons are not infected, counseling and testing can relieve unnecessary anxiety and reinforce the need to adopt or continue practices that reduce the risk of infection. If persons are infected, they should: a) take precautions to protect sexual partners from becoming infected, b) advise previous and current sexual or drug use partners to receive counseling and testing; c) take precautions against becoming pregnant; and d) seek medical care

and counseling about other medical problems that may result from a weakened immunologic system.

More detailed information about AIDS, including information about how to obtain counseling and testing for HIV, can be obtained by telephoning the AIDS National Hotline (toll free) at 800 342 2437; the Sexually Transmitted Diseases National Hotline (toll free) at 800-227 8922; or the appropriate state or local health department (the telephone number of which can be obtained by calling the local information operator)

Curriculum Time and Resources

Schools should allocate sufficient personnel time and resources to assure that policies and programs are developed and implemented with appropriate community involvement, curricula are well-planned and sequential, teachers are well-trained, and up to-date teaching methods and materials about AIDS are available. In addition, it is crucial that sufficient classroom time be provided at each grade level to assure that students acquire essential knowledge appropriate for that grade level, and have time to ask questions and discuss issues raised by the information presented.

Program Assessment

The criteria recommended in the foregoing "Guidelines for Effective School Health Education To Prevent the Spread of AIDS" are summarized in the following nine assessment criteria. Local school boards and administrators can assess the extent to which their programs are consistent with these guidelines by determining the extent to which their programs meet each point shown below. Personnel in state departments of education and health also can use these criteria to monitor the extent to which schools in the state are providing effective health education about AIDS.

1. To what extent are parents, teachers, students, and appropriate community representatives involved in developing, implementing, and assessing AIDS education policies and programs?
2. To what extent is the program included as an important part of a more comprehensive school health education program?
3. To what extent is the program taught by regular classroom teachers in elementary grades and by qualified health education teachers or other similarly trained personnel in secondary grades?
4. To what extent is the program designed to help students acquire essential knowledge to prevent HIV infection at each appropriate grade?
5. To what extent does the program describe the benefits of abstinence for young people and mutually monogamous relationships within the context of marriage for adults?
6. To what extent is the program designed to help teenage students avoid specific types of behavior that increase the risk of becoming infected with HIV?
7. To what extent is adequate training about AIDS provided for school administrators, teachers, nurses, and counselors - especially those who teach about AIDS?

8. To what extent are sufficient program development time, classroom time, and educational materials provided for education about AIDS?
9. To what extent are the processes and outcomes of AIDS education being monitored and periodically assessed?

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Appendix I

The President's Domestic Policy Council's Principles for AIDS Education

The following principles were proposed by the Domestic Policy Council and approved by the President in 1987.

Despite intensive research efforts, prevention is the only effective AIDS control strategy at present. Thus, there should be an aggressive Federal effort in AIDS education.

The scope and content of the school portion of this AIDS education effort should be locally determined and should be consistent with parental values.

The Federal role should focus on developing and conveying accurate health information on AIDS to the educators and others, not mandating a specific school curriculum on this subject, and trusting the American people to use this information in a manner appropriate to their community's needs.

Any health information developed by the Federal Government that will be used for education should encourage responsible sexual behavior--based on fidelity, commitment, and maturity, placing sexuality within the context of marriage.

Any health information provided by the Federal Government that might be used in schools should teach that children should not engage in sex and should be used with the consent and involvement of parents.

Appendix II

The Extent of AIDS and Indicators of Adolescent Risk

Since the first cases of acquired immunodeficiency syndrome (AIDS) were reported in the United States in 1981, the human immunodeficiency virus (HIV) that causes AIDS and other HIV related diseases has precipitated an epidemic unprecedented in modern history. Although in 1985, fewer than 60% of AIDS cases in the United States were reported among persons residing outside New York City and San Francisco, by 1991 more than 80% of the cases will be reported from other localities (*1*).

It has been estimated that from 1 to 1.5 million persons in the United States are infected with HIV (*1*), and, because there is no cure, infected persons are potentially capable of infecting others indefinitely. It has been predicted that 20%-30% of individuals currently infected will develop AIDS by the end of 1991 (*1*). Fifty percent of those diagnosed as having AIDS have not survived for more than about 1.5 years beyond diagnosis and only about 12% have survived for more than 3 years (*2*).

By the end of 1987, about 50,000 persons in the United States had been diagnosed as having AIDS, and about 28,000 had died from the disease (*2*). Blacks and Hispanics, who make up about 12% and 6% of the U.S. population, respectively, disproportionately have contracted 25% and 14% of all reported AIDS cases (*3*). It has been estimated that during 1991, 74,000 cases of AIDS will be diagnosed, and 54,000 persons will die from the disease. By the end of that year, the total number of deaths caused by AIDS will be about 179,000 (*1*). In addition, health care and supportive services for the 145,000 persons projected to be living with AIDS in that year will cost our Nation an estimated $8-$10 billion in 1991 alone (*1*). The World Health Organization projects that by 1991, 50-100 million persons may be infected worldwide (*4*). The magnitude and seriousness of this epidemic requires a systematic and concerted response from almost every institution in our society.

A vaccine to prevent transmission of the virus is not expected to be developed before the next decade, and its use would not affect the number of persons already infected by that time. A safe and effective antiviral agent to treat those infected is not expected to be available for general use within the next several years. The Centers for Disease Control (*5*), the National Academy of Sciences (*6*), the Surgeon General of the United States (*7*), and the U.S. Department of Education (*8*) have noted that in the absence of a vaccine or therapy, educating individuals about actions they can take to protect themselves from becoming infected is the most effective means available for controlling the epidemic. Because the virus is transmitted almost exclusively as a result of behavior individuals can modify (e.g., by having sexual contact with an infected person or by sharing intravenous drug paraphernalia wit an infected person), educational programs designed to influence relevant types of behavior can be effective in controlling the epidemic.

A significant number of teenagers engage in behavior that increases their risk of becoming infected with HIV. The percentage of metropolitan teenage girls who had ever had sexual intercourse increased from 30%-45% between 1971 and 1982. The average age at first intercourse for females remained at approximately 16.2 years between 1971 and 1979 (*9*). The average proportion of never-married teenagers who have ever had intercourse increases with age from 14 through 19 years. In 1982, the percentage of never-married girls who reported having engaged in sexual intercourse was as follows: approximately 6% among 14-year-olds (*10*), 18% among 15-year-olds, 29% among 16-year-olds, 40% among 17-year-olds, 54% among 18-year olds, and 66% among 19-year-olds (*11*). Among never-married boys living in metropolitan areas, the percentage who reported having engaged in sexual intercourse was as follows: 24% among 14-year-olds, 35% among 15-year-olds, 45% among 16-year olds, 56% among 17-year-olds, 66% among 18-year olds, and 78% among 19-year olds (*9,12*). Rates of sexual experience (e.g., percentage having had intercourse) are higher for black teenagers than for white teenagers at every age and for both sexes (*11,12*).

Male homosexual intercourse is an important risk factor for HIV infection. In one survey conducted in 1973, 5% of 13- to 15-year-old boys and 17% of 16- to 19-year-old boys reported having had at least one homosexual experience. Of those who reported having had such an experience, most (56%) indicated that the first homosexual experience had occurred when they were 11 or 12 years old. Two percent reported that they currently engaged in homosexual activity (*13*).

Another indicator of high risk behavior among teenagers is the number of cases of sexually transmitted diseases they contract. Approximately 2.5 million teenagers are affected with a sexually transmitted disease each year (*14*).

Some teenagers also are at risk of becoming infected with HIV through illicit intravenous drug use. Findings from a national survey conducted in 1986 of nearly 130 high schools indicated that although overall illicit drug use seems to be declining slowly among high school seniors, about 1% of seniors reported having used heroin and 13% reported having used cocaine within the previous year (*15*). The number of seniors who injected each of these drugs is not known.

Only 1% of all the persons diagnosed as having AIDS have been under age 20 (*2*); most persons in this group had been infected by transfusion or perinatal transmission. However, about 21% of all the persons diagnosed as having AIDS have been 20-29 years of age. Given the long incubation period between HIV infection and symptoms that lead to AIDS diagnosis (3 to 5 years or more), some fraction of those in the 20- to 29-year age group diagnosed as having AIDS were probably infected while they were still teenagers.

Among military recruits screened in the period October 1985-December 1986, the HIV seroprevalence rate for persons 17-20 years of age (0.6/1,000) was about half the rate for recruits in all age groups (1.5/1,000) (*16*). These data have lead some to conclude that teenagers and young adults have an appreciable risk of infection and that the risk may be relatively constant and cumulative (*17*).

Reducing the risk of HIV infection among teenagers is important not only for their well-being but also for the children they might produce. The birth rate for U.S. teenagers is among the highest in the developed world (*18*); in 1984, this group accounted for more than 1 million pregnancies. During that year the rate of pregnancy among sexually active teenage girls 15-19 years of age was 233/1,000 girls (*19*).

Although teenagers are at risk of becoming infected with and transmitting the AIDS virus as they become sexually active, studies have shown that they do not believe they are likely to become infected (*20,21*). Indeed, a random sample of 860 teenagers (ages 16-19) in Massachusetts revealed that, although 70% reported they were sexually active (having sexual intercourse or other sexual contact), only 15% of this group reported changing their sexual behavior because of concern about contracting AIDS. Only 20% of those who changed their behavior selected effective methods such as abstinence or use of condoms (*20*). Most teenagers indicated that they want more information about AIDS (*20,21*).

Most adult Americans recognize the early age at which youth need to be advised about how to protect themselves from becoming infected with HIV and recognize that the schools can play an important role in providing such education. When asked in a November 1986 nationwide poll whether children should be taught about AIDS in school, 83% of Americans agreed, 10% disagreed, and 7% were not sure (*22*). According to information gathered by the United States Conference of Mayors in December of 1986, 40 of the Nation's 73 largest school districts were providing education about AIDS, and 24 more were planning such education (*23*). Of the districts that offered AIDS education, 63% provided it in 7th grade, 60% provided it in 9th grade, and 90% provided it in 10th grade. Ninety-eight percent provided medical facts about AIDS, 78% mentioned abstinence as a means of avoiding infection, and 70% addressed the issues of avoiding high-risk sexual activities, selecting sexual partners, and using condoms. Data collected by the National Association of State Boards of Education in the summer of 1987 indicated that a) 15 states had mandated comprehensive school health education, eight had mandated AIDS education; b) 12 had legislation pending on AIDS education, and six had state board of education actions pending; c) 17 had developed curricula for AIDS education, and seven more were developing such materials; and d) 40 had developed policies on admitting students with AIDS to school (*24*).

The Nation's system of public and private schools has a strategic role to play in assuring that young people understand the nature of the epidemic they face and the specific actions they can take to protect themselves from becoming infected—especially during their adolescence and young adulthood. In 1984, 98% of 14- and 15-year-olds, 92% of 16- and 17-year-olds, and 50% of 18- and 19-year-olds were in school (*25*). In that same year, about 615,000 14- to 17-year-olds and 1.1 million 18- to 19-year-olds were not enrolled in school and had not completed high school (*26*).

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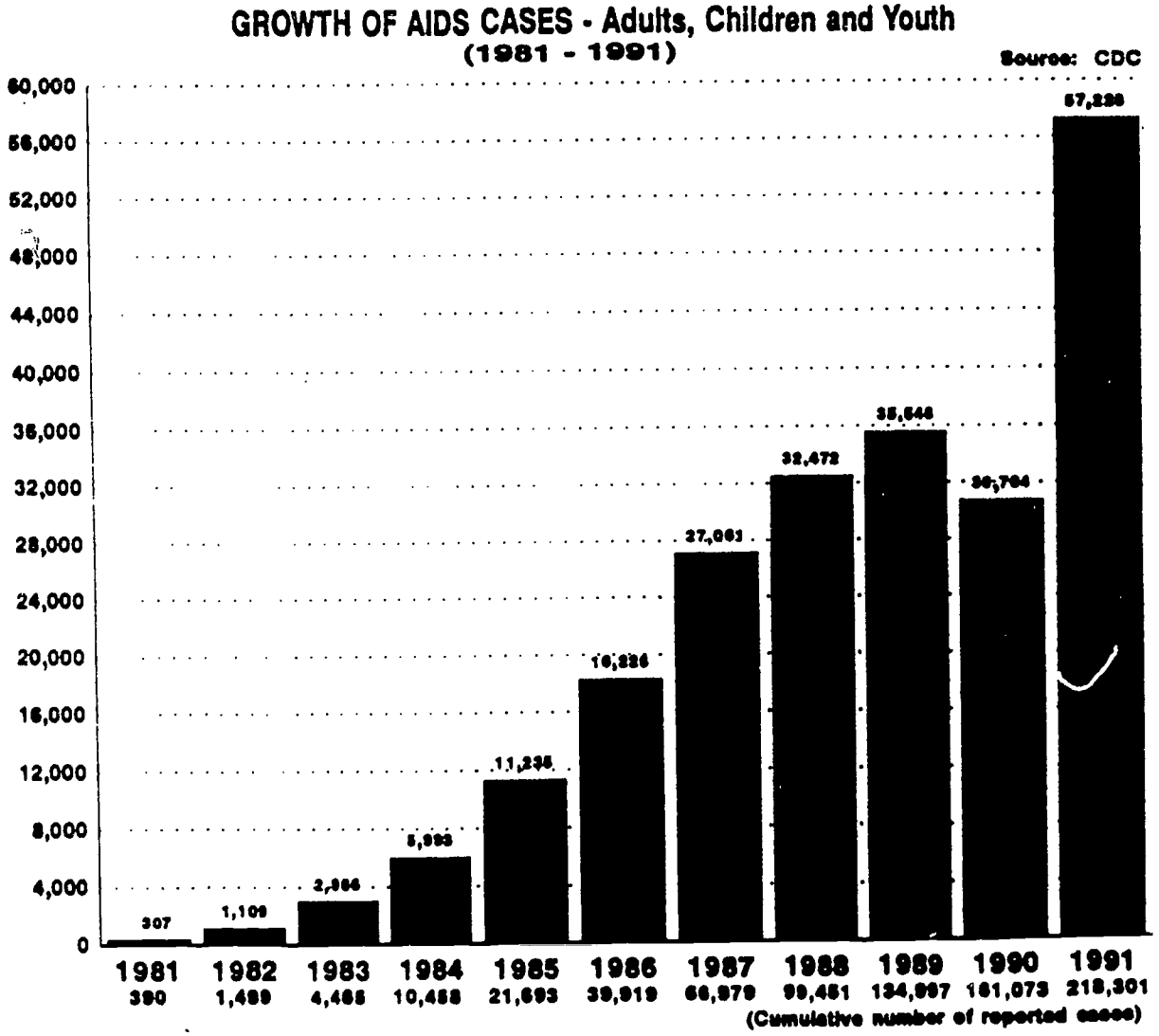
BASIC FACTS ABOUT AIDS AND HIV

HISTORY AND SPREAD OF AIDS CASES

Between February and May 1981, the Centers for Disease Control (CDC) received 11 separate requests for pentamidine, medication used to treat a rare form of pneumonia, heretofore unknown in young, otherwise healthy males. The requests came from a physician in Los Angeles and a physician in New York who were both treating homosexual men afflicted with Pneumocystis carinii pneumonia (PCP). At that time physicians could only obtain pentamidine through special requests to the CDC. The woman who took the requests for pentamidine realized that this was a new disease.

Although AIDS is a relatively new disease, researchers have made significant advances in understanding its epidemiology and ways to prevent its spread. Unfortunately, AIDS cases have multiplied rapidly during the first decade of the disease and CDC predicts that by the end of 1993, there will be a cumulative total of 375,000 to 457,000 cases of AIDS in the United States. (See Figure 1) These predictions are uncertain because HIV Disease researchers do not know the extent or duration; of drug therapies that treat or seem to delay AIDS.

Figure 1



Since 1987, the rate of increase of new AIDS cases has slowed. This trend has been attributed to several factors including the following:

...A decline in the incidence of new HIV infections among homosexual men in the early 1980s, leading to a subsequent decline in the incidence of reported AIDS cases;

...The use of anti-retroviral and other types of therapy by mid-1987, leading to a lengthening of the incubation period from the acquisition of HIV infection to the presence of symptoms of AIDS; and

...Possible decreases in the completeness or timeliness of AIDS case reporting.

Such early "epicenters" as New York City and San Francisco have already suffered the peak impact from the epidemic. Their rate of new cases is leveling off compared to previous years. Still, the devastation of the epidemic continues to play itself out in AIDS diagnoses and deaths exceeding 1,000 in these cities each year. Moreover, in other areas where the epidemic is less "mature" (e.g., Tennessee, Mississippi), we are currently witnessing an annual doubling, tripling, or greater increase in new cases.

As the number of AIDS cases increases, so does the impact on society. The afflicted, primarily aged 30-39, are the very group on whom our society depends for health and productivity. The disease, when it reaches the end stage known as AIDS, is thoroughly devastating, medically bankrupting, and fatal. (Absent effective treatment, and mortality rate still exceeds 58% overall, 85% three to five years post-diagnosis of AIDS.)

It should be noted that, like any reporting system, AIDS surveillance is subject to the pitfalls of case identification, diagnosis, and report generation and processing. Such problems as time lags from diagnosis to release of data by the CDC are endemic to the system, and difficulties in detecting and/or diagnosing persons not well served by the health care system (like IV drug users, women) may be assumed to skew the epidemiological picture.

AIDS AND YOUNG PEOPLE

Like adults, young Americans have also been stricken by the recent AIDS epidemic. By December 31, 1991, there were 3,471 infant/child (the majority were under 5 years of age) and 734 teenage cases of AIDS reported to CDC.

There are different epidemiological patterns of the disease depending on the race/ethnicity of the young person. An alarming majority of AIDS cases aged five or younger are black and Hispanic children for whom HIV was transmitted through their infected mothers during pregnancy or birth. Most of these mothers were either intravenous drug users or sexual partners of drug users. By contrast, more than two-thirds of the pre-adolescent cases (ages 5-12) and about one-half of the teenage cases (ages 13-19) are white youths. The number of AIDS cases reported to CDC on Pacific Island and Native American youth is relatively small, totaling less than two percent of all cases as of December 31, 1991.

Without the intervention of youth services professionals and other concerned adults, the current toll of the AIDS epidemic upon young Americans will continue to increase. These statistics do not reflect the untold majority of youths who are HIV+, but are not yet exhibiting any clinical signs of AIDS and have not had reason to be tested.

THE IMMUNE SYSTEM AND HIV

Infectious Diseases - Our bodies harbor and are constantly surrounded by numerous tiny living organisms, most of which are harmless; some are even beneficial to humans. A few, however, cause disease if they invade our bodies. These harmful micro-organisms are called "pathogenic" organisms.

All of these disease-causing bacteria or viruses are also "infectious," meaning they can be transmitted from one person to another in various ways, including through skin contact, through contaminated food or other products, by airborne particles, by animal or insect bites, or through sexual contact. Different bacteria and viruses have different modes of transmission.

Viruses - Viruses live and reproduce within living cells. They are made up of a protein coat--or envelope--over a string of genes. Each type of virus is keyed to receptors on the surfaces of different types of cells. Only certain human body cells are susceptible to any specific viral invader. Some types of enteric viruses, for example, seek out cells in the gastrointestinal tract, while cold viruses attack upper respiratory cells.

Because viruses invade living cells to reproduce themselves, it is difficult to kill them with drugs without also harming the cells where they have hidden. Treatment for viral infection has, until very recently, usually been limited to remedies for symptoms or complications. Viruses are responsible for many very common ailments, including mumps, measles, chicken pox, shingles, herpes, mononucleosis, colds/flu, viral meningitis, and hepatitis.

The Body's Defense Systems - The human body has a variety of mechanisms to protect itself against foreign invaders--also called "antigens."

...The skin is a primary defense, and the sweat glands that bathe it also contain some antiseptic properties.

...Most natural body openings also contain defenses--germ-fighting or repelling substances in tears, saliva, and mucous membranes.

...Other body parts such as the tonsils, lymph nodes, liver, or stomach trap and attack or filter out undesirable foreign matter.

...The body's lymph system also contains white blood cells that can identify, attack, and destroy or neutralize invading organisms.

Major Actors in the Immune System

The major actors in this internal defense network are two types of white blood lymphocytes and some other derivatives of cells that originate in bone marrow.

...Macrophage are scavenger cells that sometimes assist the defense system by engulfing invading viruses, breaking down their protein coats, and displaying their properties, thus helping other defense troops to recognize the invader. In the "Army Analogy," the macrophage is the scout, sentry, or lookout.

...T-4 Helper/Inducer Cells are the essential commanders, or generals, of the defense system, directing the action of other T-cells and the B-cells. Their collaboration is vital to the immune system because they interact with and regulate this very complex immune response by manufacturing and releasing chemical messengers. Once the general of the army has been kidnapped, opportunistic invaders such as Pneumocystis carinii can find a hospitable environment in which to proliferate, as the T-4 cells would be unable to call out the B plasma cells, or foot soldiers.

...B cells also recognize infectious viruses when they first enter the body while they are in a "free" state before they invade other body cells. When called into action, B cells multiply and divide into two subtypes. The B plasma, or "footsoldier," cells secrete specifically manufactured protein "antibodies" that bind to the recognized foreign protein or sugar molecules (antigens) and inactivate them.

...B Memory Cells live longer and are the source of further immunity to any recurring attack by the same antigen.

...T-8 Cytotoxic ("Killer") Cells, known as the "cleanup crew/bugle corps," when called into action by the T-4 cells, actively destroy cells that have been invaded or mutated. Later when the T-cells determine that it is safe to do so, the T-8 suppressor cells are summoned to shut down the attack response.

The Normal Immune Reaction to Viruses

In a normal immune response to a viral invasion:

...Viruses enter the body.

...Macrophages recognize the invaders and move in to immobilize them, break them down, and display their protein properties.

...Macrophages and other antigen-presenting cells send signals to the T-cells that can set the second line of defense into motion.

...The T-4 cells collaborate with the B-cells that have also recognized antigens. The T-4 cells stimulate the B-cells to mature into plasma cells that secrete antibodies for inactivating the invading antigens and memory cells that will recognize the invader in the future.

...The T-4 cells also send in the T-8 cells to kill off all the infected cells that display viral antigen and then turn off the defense system when the battle is over.

SPECIAL CHARACTERISTICS OF HIV

HIV combines a number of special characteristics that make it a particularly formidable invader defying our attempts to develop effective vaccines and/or treatment post-infection.

Affinity for Key Immune System Cells

HIV, like all viruses, is a parasite that seeks out particular cells in the body for invasion in order to reproduce itself. Unfortunately, the special targets of HIV are the macrophages, the T-4 cells (or generals, which are "kidnapped" and "brainwashed" as they replicate as infected HIV cells), and, to a less critical extent, B-cells and certain brain cells.

As a result, a number of functional defects occur in the immune response. The macrophages and T-4 cells are not as responsive to identified antigens and decreases production of the vital chemical messengers that direct other lymphocyte and selected cellular activity. The B-cells are more spontaneously active but produce fewer specific antibodies and lose their responsiveness to ordinary signals; and the killer cells are less effective. The immune system is thus disrupted.

One early identified result of this disruption is the ineffectiveness of HIV-specific antibodies. The reasons for the failure of this mainline defense in the instance of HIV infection are still under investigation. One of the prevailing theories suggests that the affinity between the chemical code on the HIV envelope and the receptor site on T-4 cells is so strong that envelope antibodies are simply not equal to the task.

Of increasingly recognized importance is HIV's effect on macrophages, which is to apparently pervert these cells' scavenger role. That is, after identifying and engulfing HIV in much the typical fashion, the macrophages fail to perform their function of breaking down and displaying the virus to alert the rest of the system. Rather, they hold HIV in reservoir, camouflaging its presence from antibodies and other attack cells, transporting it intact around the body (including across the blood-brain barrier), and secreting HIV-directed chemicals that are destructive to other cells.

HIV also causes considerable system-wide damage by targeting T-4 cells. Although it does not attack T-4 cells directly to any great extent, HIV's activity eventually causes T-4 cells to clump together and die. As this happens, the ratio of T-4s to T-8s changes. In healthy people, the number of T-4 cells is greater than the number of T-8 cells, but this reverses in HIV-infected persons. It is this dramatic imbalance that is believed to lay the immune system open to devastation by the legion of otherwise manageable opportunistic infections and cancers.

Permanent Installation

HIV is a retrovirus, which, once it sheds its protein coat inside the T cell, uses a reverse transcriptase enzyme to translate its own genetic program (RNA--ribonucleic acid) into the T-4 cells' DNA--deoxyribonucleic acid. It is then permanently incorporated into human genetic material and can begin reproducing viral RNA and proteins to form new viral particles that are released by "budding" through the invaded cell's membrane (as in T-4 cells) or within the cell (as in macrophages).

Long, Uncertain Incubation Period

HIV has been classified as a member of the lentivirus subgroup of retroviruses, which has a number of implications for the development of symptomatic disease. Following initial viremia (established infection in the blood) and acute (often unnoticed) onset symptoms, this group of viruses has a very long latency period, and HIV can apparently remain dormant for years--or even for life. An HIV infected "carrier" may appear completely healthy but, at the same time, is most likely infectious, or capable of spreading the virus to other persons through sexual activity and by certain drug practices.

In fact, and HIV-infected person may be only intermittently infectious--shedding the virus--while the virus is in the latent state. Recent research suggests that the individual is most infectious in the several months just prior to symptom development--precisely when there are no overt "markers" of infection that may have occurred years earlier.

Rapid Reproduction and Destruction Once Activated

HIV carries a special gene--called transactivation--as part of its retroviruses RNA. This gene can adjust the production of new viruses by the infected cell at heretofore unheard of levels, probably 20 times faster than flu virus and 100 times faster than the invaded cells can reproduce. Scientists think this response may either be released spontaneously or activated by another immune system challenge to the T-4 cells. When activated by this test III--or chemical switch--after a period of dormancy, HIV spreads rapidly to infect other T-4 cells in the immune system. This rapid reproductive process destroys the body's main defense system.

The length of the latency period before manifestation of clinical symptoms and the rapidity of disease development may be influenced significantly by the health of the infected carrier. HIV may remain relatively dormant until invaded cells are activated by the invasion of other antigens, which we shall examine below. Each new infection or invasion may debilitate the system and/or cause more viral spread and

more "viral load" in the system. A final "last straw" infection may then activate the multiplier genes in the HIV: Rapid proliferation of viruses depletes the whole and/or what remains of the--immune system.

FREQUENT MUTATIONS

HIV's reverse transcriptase is, relatively speaking, quite inaccurate at translating the viral RNA. As a result, given its rapid reproduction once activated, HIV also mutates rapidly--at a rate estimated to be 100 to 1,000 times greater than flu virus. This mutation can occur both within an infected individual (with as yet unknown implications) and among "pools" of infected persons. At least 100 variants--20 strains--of HIV have been isolated regionally, and a sufficiently different form has established itself in West Africa to warrant dubbing as HIV-2 (recently documented in New Jersey in the AIDS-related death of a West African immigrant). This characteristic, called antigenic drift, confounds serological testing for antibodies, may help different strains of the virus evade the antibody defense, and defies vaccine development as well--since all of these processes involve detection of a biochemically specific entity.

Inability of HIV-Specific Antibodies To Destroy or Inactivate HIV

HIV-specific antibodies apparently have no impact on HIV. The antibodies are ineffective against HIV and fail to inactivate or destroy the virus.

Modes of HIV Transmission

How does infection with HIV occur? Not everyone who comes into direct contact with HIV becomes infected, just as flu does not occur from every exposure to that virus, even if prior immunity to a particular strain is not present. Here, the differentiation is between:

...Infection--meaning a virus has actually entered the body and invaded a living cell and begun to multiply, and

...Exposure--meaning there was only an opportunity for such invasion.

The Modes of Transmission

The infectiousness of HIV may be thought of as the inverse of its deadliness. That is, it is an extremely delicate virus, readily inactivated by standard disinfecting procedures, and only transmitted among humans in three extremely limited ways:

...Through parenteral injection of contaminated blood or blood products--In IV "works"-sharing among drug users, during injection of steroids, during blood transfusions and hemophilia treatments, by unsterile instruments used for procedures like tattooing, and through mishandling of health care operations resulting in such accidents as needle-sticks;

...Through sexual contact in which there is exchange of certain infected body fluids--Between males, from male to female, and from female to male (with female-female cases being extremely rare), primarily during unprotected anal, oral or vaginal intercourse with an HIV-infected individual; and

...From infected mothers to babies--In the uterus before birth, during the birth process, or (less frequently) through breast milk while nursing.

As public health officials sum it up, the transmission modes are blood exchange, sex, and birth. Primary prevention--that which is aimed at preventing transmission of HIV--is, therefore, geared to avoiding or effectively blocking these modes (as we shall examine at the end of this unit and in detail when we consider risk reduction).

Transmission Factors for Infection from Exposure to HIV

As every exposure to the virus does not result in infection, it is important to understand those factors that seem to increase the likelihood of infection by HIV. Among these risk factors are:

...The type of fluid transmitted--blood and semen being those of highest associated risk;

...The route of absorption--injection, rectal, vaginal, and placental being those of highest risk;

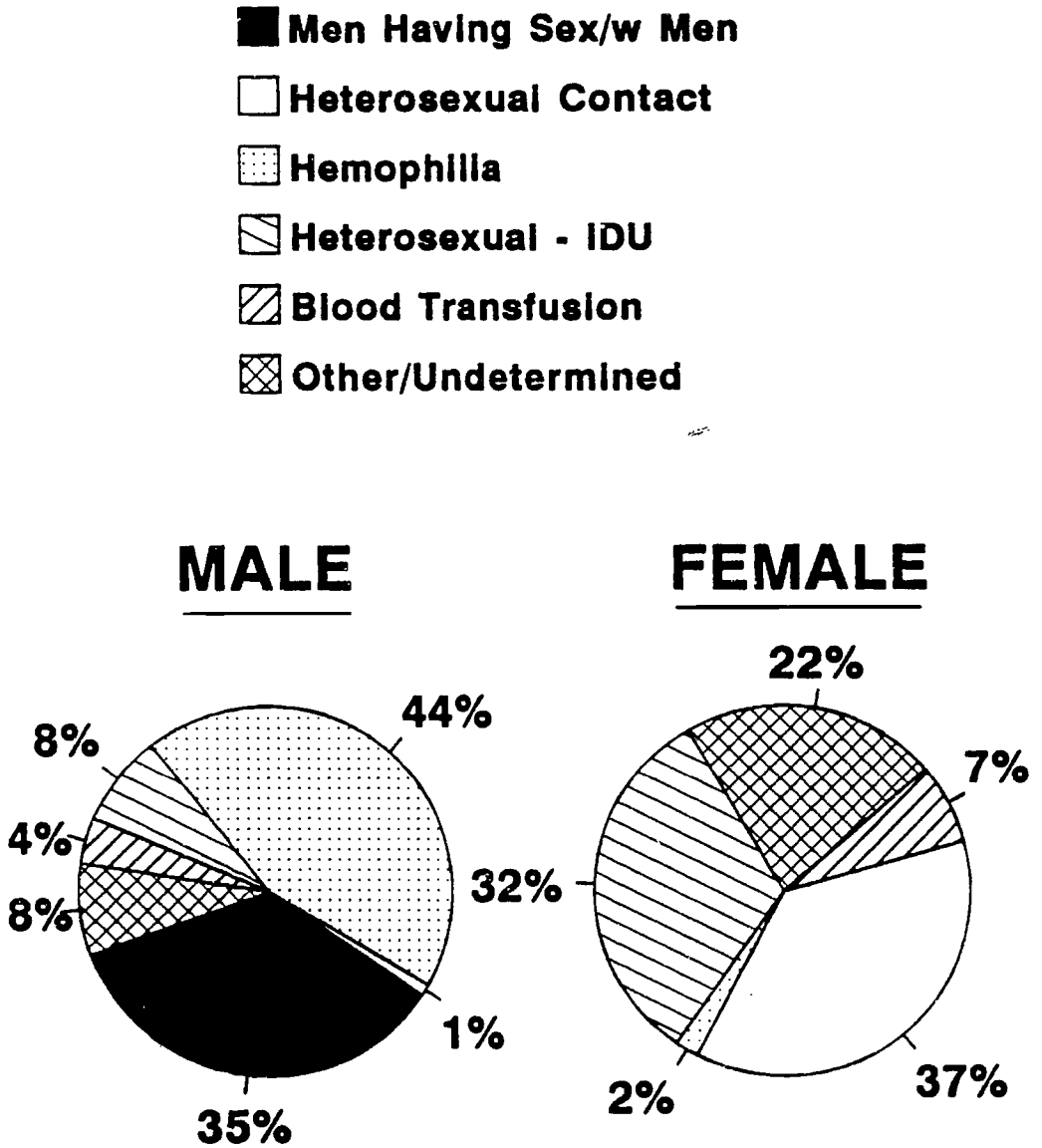
...The fluid dose--either a large amount or frequent small amounts being of highest risk; and

...Less directly, the health status of the person exposed--with another illness, particularly sexually transmitted diseases, of highest compromise.

Figure 2

CASES OF AIDS BY EXPOSURE

Adolescent (13-19 year olds) AIDS Transmission
December 1991



(Cumulative 1981 - 1991)

Figure 2 (continued)

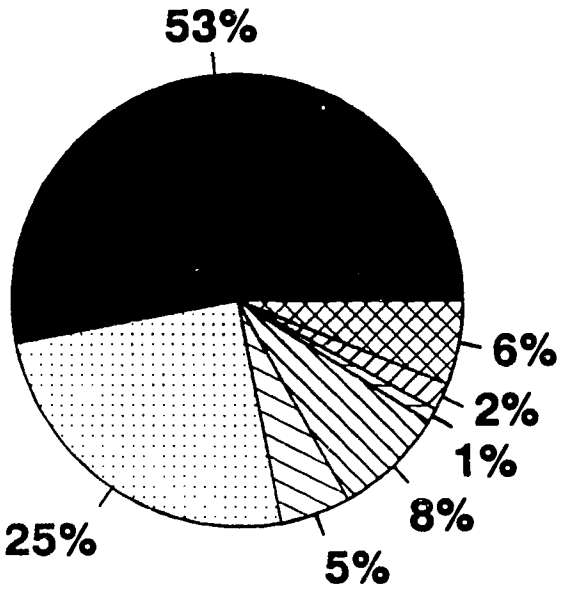
CASES OF AIDS BY EXPOSURE
December 1991

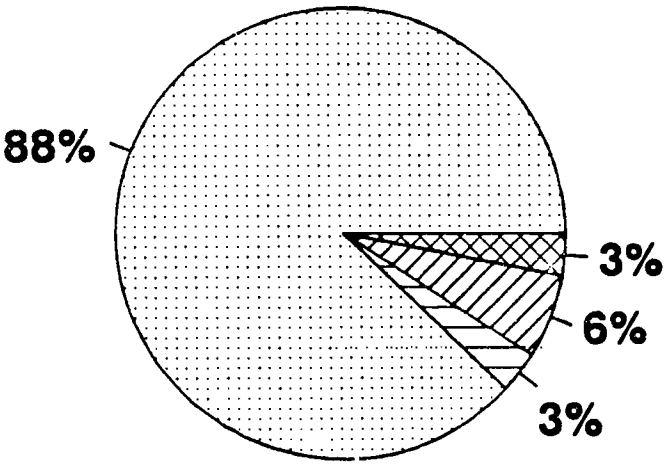
ADULT

- Male-Male Sex
- Injecting Drug User
- Homosexual-IDU
- Heterosexual Contact
- Hemophiliac
- Blood-Transfusion
- Other/Undetermined

PEDIATRIC

- Mother with/or at Risk
- Hemophiliac
- Blood Transfusion
- Other/Undetermined





(Cumulative 1981 - 1991)

Nonrisks for Infection

Since HIV is bloodborne and sexually transmitted, it is not passed along through insect bites, food, airborne exposure, or such other normal social contacts as handshaking, kissing, using common toilets, swimming in pools, riding public transportation, attending school, working together, drinking from public fountains, or even visiting in hospitals.

Moreover, HIV is easily killed by such modest disinfectant procedures as handwashing, heat, and routine cleaning with such agents as rubbing alcohol, household bleaches, and hydrogen peroxide.

Family Members Having Direct Contact with Persons with AIDS

No cases of HIV infection or AIDS have been reported in the United States from close but nonsexual or needle/blood-sharing contacts by family members with Persons with AIDS (PWAs). Ongoing studies of upwards of 100 family members who have lived with people with AIDS and milder manifestations of HIV Disease for an average of 22 months--sharing household items and assisting with bathing, dressing, and eating in living conditions of poverty and overcrowding--found no signs of HIV infection. They have shared the same eating utensils, and nine percent even shared razors in the approximately 18-month period before they knew their family member had AIDS.

HIV DISEASE

Persons who become infected with HIV can manifest a broad spectrum of clinical responses, of which AIDS is the end and most severe form. Four "stages" of HIV Disease are typically described: Acute onset of infection, asymptomatic incubation, chronic symptoms (heretofore known as "AIDS-related complex" (ARC), and AIDS. These stages may be thought of as points along a continuum of response to infection, although a particular individual will not necessarily experience all stages nor progress inevitably to the last. Progression from one stage to another has been shown to be a function of time and is probably influenced by one or more of a host of potential cofactors.

Cofactors Associated with Progression of HIV Disease

The potential role of "cofactors" in the progression from infection to clinical manifestation of disease is poorly understood but may be controllable. As noted above, HIV apparently multiplies more rapidly when the immune system is activated or otherwise compromised (suppressed) by other concurrent infections or challenges.

Research on persons with AIDS has suggested but not proven that a number of cofactors may act to potentiate the damage of HIV, including:

...Reinfection with HIV;

...Intercurrent infections, especially of other sexually transmitted diseases (STDs), such as herpes, hepatitis-B, cytomegalovirus, syphilis, or tuberculosis;

...Most drugs, including alcohol, nicotine, and steroids, as well as illicit substances;

...Anxiety and other environmental stressors that are excessive or poorly managed;

...Pregnancy and labor;

...Poor nutrition or sanitation; and

...Age, which has also been associated as a factor to progression for adolescents.

The Spectrum of HIV Disease

Stage ONE: Acute Onset of Infection

It typically takes from at least two to eight weeks after HIV enters the body for the virus to establish infection by invading cells and reproducing. With established infection, most persons note no remarkable symptoms or signs of illness. (In some instances, this may be because HIV has established itself only within macrophages, where it is hidden from the body's detection and reaction. When they do manifest, the symptoms of acute onset of HIV infection are similar to those of other viral infections, such that this first stage of HIV Disease was unrecognized for five years.

As documented among several health care workers observed closely after they suffered needle-stick injuries, as well as among about a third of a prospective study of gay men, the acute onset resemblse mononucleosis or flu: fever, fatigue, red rash, swollen glands, headache, sore throat, and muscle pains. Some studies have found an acute infection of the central nervous system--aseptic meningitis--at this stage. These symptoms appear a few weeks to several months after infection and are transient and self-limiting, resolving in 3-14 days. They are, in turn, accompanied or followed by antibody production.

Stage TWO: Asymptomatic Incubation

Following established infection and resolution of acute onset symptoms (when experienced), nearly all HIV-infected persons remain symptomless for a period of time. That period has been shown to very widely, from a few months to as long as ten years, and perhaps for life. The history of AIDS is still too short for us to know. During this asymptomatic incubation stage, the virus is apparently not truly dormant in most individuals, who usually show laboratory evidence of immunologic defects that develop rapidly after antibodies are detectable. The long-term health consequences of these changes are not yet clear.

The length of the asymptomatic incubation stage is believed to vary with the individual's age, sex, mode of infection transmission, and general health. Unfortunately, since the history of the epidemic is still so short, and the point of HIV infection so difficult to determine, studies of this stage have primarily been projections based on small cohorts. Such studies of transfusion recipients and (84) gay men at risk for other sexually transmitted diseases have projected that the stage lasts an average of 8.2 years and 7.8 years, respectively. (From these projections, one might speculate that the outside limit would be 15-16 years.) It is thought to be considerably shorter for persons with greater health compromises, such as newborns and IV drug users.

The CDC's initial optimistic outlook that the majority of asymptomatic individuals would remain healthy has been eroded by the passage of time as increasing numbers of individuals studied have progressed to symptoms. Current projections are uniformly dire and very widely, but generally suggest that HIV Disease is progressive to symptoms within five to ten years for the majority (i.e., 50% or more) of adult cases. Among the most studied "hepatitis B cohort" of gay men in San Francisco, upwards to 80% had progressed to Stage Three or Four after 8.5 years.[1]

These disease progression trends, while certainly alarming, are confounded by the presence of, typically multiple, cofactors in many of the cohorts studied over the longest periods--gay men with other STDs and probably immune-compromising substances use (as documented in 80% of early AIDS diagnoses among gay men), IV drug users, and transfusion recipients. Based on such samples and using primarily mathematical constructs (e.g., T-cell counts, lapsed time, statistical models), our understanding of the course of HIV Disease has taken a deterministic bent--that is, that symptoms proceed inexorably from HIV infection.

A fuller scientific understanding of the asymptomatic incubation stage and progression to symptoms awaits the maturation of controlled studies of larger, more diverse samples of infected individuals. The studies should focus on the biochemical nature of HIV's latency and indirect destructiveness (as from within macrophages), as understanding is needed to inform effective primary and secondary prevention--that is, to help infected individuals:

...Avoid infecting others (primary prevention) at a time when they may be most infectious but least aware of it; and

...Select health promotion plans to reduce the likelihood of disease progression (secondary prevention), whether by reducing other immune system challenges (cofactor) and/or electing treatment that may halve HIV reproduction.

Stage THREE: Chronic Symptoms

The most elusive and ill-defined of all stages of HIV Disease, the third stage has become an "elimination category": It is currently composed of all disease states associated with HIV that are not Stage Two (asymptomatic) or Stage Four (definitive of AIDS). It has also been referred to by various names, including persistent generalized lymphadenopathy (PGL--for its dominant symptom), AIDS-related complex (for its "less-than" likeness to the Stage Four syndrome), and the transition stage (suggesting, once again, inexorable disease progression). It is characterized by the presence of chronic symptoms that do not

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[1] It should be noted that the much-publicized June 1988 prediction of 99% progression to AIDS from the study of 84 men from this cohort by the CDC and the San Francisco Health Department is seriously flawed and misreported. The reported rate is a projection, not observed actually, drawn from the application of a statistical model, itself constructed from trends among a small cohort of individuals of different characteristics (transfusion recipients). In their report, the authors admit that the projection is little more than a mathematical exercise that will not necessarily predict the experience of undiagnosed individuals in the cohort, let alone other HIV-infected individuals.

resolve, are troublesome, and may evolve into fatal forms (which would then permit an end-stage, or AIDS, diagnosis). Over the course of the epidemic, Stage Three, therefore, has been a very fluid category--capturing unusual diseases states when they are first identified and associated with immune deficiency and relinquishing those that come in time to be recognized as fatal and reclassified as end-stage.

The symptoms of the chronic state (like those of acute onset of infection) are not notably different from those of other common illnesses. The distinguishing features clinically are the persistence and unusual expression of the symptoms. Thus, for example, the most characteristic symptom--lymphadenopathy, or severely swollen lymph glands--persists for over two months and presents, generally, in the neck, armpits, and beside the groin. Other symptoms include oral thrush (a yeast infection causing white patches in the mouth, common in children but not adults), hairy leukoplakia (heretofore considered a precancerous condition), and subtle CNS symptoms that frequently elude detection (such as unusual nerve sensations in the extremities).

If such symptoms are detected, a variety of laboratory tests are typically used to confirm an association with HIV Disease. These include suppressed lymphocyte counts, inverted T helper to suppressor cell ratios, elevated immunoglobulin levels, nonreactive skin tests to recall antigens for such other viruses as mumps or tuberculosis, and other evidence of immune abnormalities, in addition to positive results from one or more HIV antibody tests. If such evidence is found in the absence of life-threatening disease, the individual is considered symptomatic of HIV Disease (but not to have AIDS).

The prognosis for persons in Stage Three is even more unclear than for Stage Two. Many symptomatic individuals remain stable for years, often with symptoms abating and recurring in similar severity. But it is believed that most will, without effective treatment, progress to AIDS within a five-year period. Both the surveillance and prognosis of symptomatic HIV Disease are confounded by the newness of the disease, which occasions constant oversight as well as detection of new illnesses and frequent reassignment of those illnesses discovered to be life-threatening. For example, two sets of disease categories--the so-called "wasting syndrome" and "HIV dementia"--were initially relegated to Stage Three. With the recognition that they can be fatal, they were reclassified as AIDS categories in August 1987, and in the ensuing year, 9,000 additional AIDS cases were diagnosed that would not have been identified as such earlier. Similarly, the yeast infection that causes oral thrush is considered nonlife threatening in the mouth, but definitive of AIDS when it disseminates to the esophagus and elsewhere in the body. As a result, a better understanding of Stage Three--clinical expression, limits, and prognosis--awaits further medical and scientific refinement.

Stage FOUR: AIDS

As established in late 1982 by the CDC, initial criteria for an AIDS diagnosis required that two conditions be met:

1. The presence of a reliable diagnosed--objectively confirmable (by culture or biopsy)--disease that is at least moderately indicative of underlying cellular immunodeficiency; and
2. The absence of other explanations for this condition.

The original list of indicative diseases included 11 unusual, so-called "opportunistic," infections and cancers. The most notable of these were and remain Pneumoncystis carinii pneumonia and Kaposi's Sarcoma (see below).

Since that time, several unusual forms of otherwise common diseases and malignancies (such as disseminated TB) not on the CDC hallmark list have been included in the definition, as they have been discovered to be life-threatening and found in combination with evidence of HIV infection. Increasing recognition and diagnosis of this range of illnesses associated with end-stage HIV Disease has been facilitated by the increasing availability and sophistication of tests for HIV infection and underlying immune deficiency.

Most recently, as noted above, two whole disease subcategories were added to the CDC surveillance definition of AIDS, and more presumptive diagnoses are now permitted when supported with evidence of HIV infection. As a result, in summer 1988, the categories of illness that characterized Stage Four of HIV Disease may be arrayed as:

...Wasting syndrome;

...AIDS dementia;

...Secondary (opportunistic) infections;

...Rare cancers; and

...Interstitial pneumonia (in children).

The causes, unknown and suspected, and symptoms of these illnesses are described below.

Wasting Syndrome. The constitutional disorders that comprise this syndrome have been commonly associated with HIV Disease since the early days of the epidemic in the United States and, particularly, in Africa (where it was dubbed, as a result, "slim's disease"). The symptoms of the wasting syndrome include:

...Rapid unexplained weight loss of ten percent or more of body weight;

...Persistent fever of 100 degrees or more for at least 30 days; and/or

...Chronic unexplained diarrhea.

The syndrome is also typically accompanied by unusual, unexplainable fatigue or listlessness and recurrent drenching night sweats.

The causes of wasting syndrome, though not definitely established, are believed to be connected with the action of HIV itself, particularly as it has recently been shown to attack lower intestinal cells. Once the devastation and frequent fatality of the syndrome were recognized, it was added to the list of diseases defining Stage Four in August 1987.

AIDS Dementia. Also added at that belated point was a progressive intellectual, motor, and behavioral deterioration, difficult to diagnose because of its insidious development, or to differentiate later from the effect of opportunistic infections that attack the CNS. Now recognized as the result of HIV's action--whether indirectly via destructive secretions of infected macrophages or direct attack of brain cells--AIDS dementia manifests in such overt and progressive symptoms as:

...Memory loss, forgetfulness, and confusion;

...Changes in gait or coordination, blurring of vision/hearing, slurred speech

...Mood swings and depressive states; and

...Delusions, numbness in limbs, paralysis, and degeneration of the spinal cord in late stages.

Although AIDS dementia often eludes detection until after another AIDS-related disease has been diagnosed, it may be the first symptom in many cases. At least two-thirds of AIDS patients have some signs of this disorder before they die. Many people die of AIDS dementia absent other definitive illnesses.

Figure 3

PREVALENCE OF SOME COMMON STAGE FOUR AIDS-ASSOCIATED ILLNESSES (Adults/Adolescents)

Illness	Prevalence*
Pneumocystis carinii pneumonia (PCP)	49%
HIV Wasting Syndrome	17%
Candidiasis	15%
Kaposi's sarcoma	11%
Cytomegalovirus	7%
HIV Encephelopathy (dementia)	6%
Cryptococcoses	6%
Toxoplasmosis	5%
Mycobacterium avium	4%
Herpes Simplex	3%
Tuberculosis	2%

*Prevalence: The disease(s) found upon initial diagnosis of AIDS in patients since the CDC case redefinition in September 1987. More than one disease may be listed

Figure 3 (continued)

for each case, and the initial illness does not reflect later illnesses that may ultimately cause death.

Descriptions of the above illnesses may be found in the Appendix.

Source: HIV/AIDS Surveillance Year-End Edition, issued January 1991.

Secondary (Opportunistic) Infections. The opportunistic infections that persons with AIDS suffer from are not common or usually significant in persons with healthy immune systems. Many are caused by infectious agents that are found throughout our environment. These illnesses in AIDS cases tend to have an aggressive clinical course, be very resistant to treatment, and have a high rate of recurrence after specific treatment stops, because patients have no more "resistance."

The most frequently encountered AIDS-associated illnesses are:

- Pneumocystic carinii pneumonia (PCP), recently recognized as caused by a fungus, is characterized by dry cough, fever, shortness of breath, and intense pain when inhaling. A bout of PCP often lasts for a month and is sometimes preceded by wasting debilitation. One of the first hallmarks of AIDS, PCP is the first disease diagnosed among the majority of people with AIDS (PWAs), and three-fourths of PWAs have at least one bout. Although 90% survive this episode, at least a fifth have a relapse. PCP is susceptible to treatment and prophylaxis with pentamidine and other drugs.

- Candidiasis (or thrush) of the esophagus, bronchi, trachea, and/or lungs is the third most frequent disease listed as a primary condition.

- Cryptococcosis is a fungus infection that may cause meningitis or CNS involvement, or may produce pneumonia or pleurisy with headache and fever.

- Cytomegalovirus (CMV), a virus from the herpes family, causes a fulminant mononucleosis-like syndrome with infection of internal organs other than the liver, spleen, or lymph nodes. It also may manifest as pneumonia or colitis. One of the most serious manifestations is spots in the retina, which typically lead to blindness.

- Cryptosporidiosis is a (protozoan) parasitic infection that produces unrelenting diarrhea with enormous fluid losses. It may be accompanied by nausea, vomiting, and loss of appetite, leading to weight loss.

- Chronic herpes simplex in AIDS patients causes chronic mucocutaneous ulcers, especially in and around the anus, or disseminated infection. It may progress to encephalitis or pneumonia.

- Toxoplasmosis is caused by (protozoan) parasites found in undercooked meats, cat feces, and contaminated water. In AIDS patients, the infection affects the brain and manifests as seizures and other neurologic deficits.

- Disseminated tuberculosis is outside (the more common area of) the lungs--in bones, lymph nodes, nerves, rectum, or lining around the ears. TB was added to the list of AIDS-indicative diseases in 1986. TB does respond to therapy, but is of special concern because it is more contagious than other AIDS-associated infections.

Rare Cancers. Like secondary infections, the cancers that constitute an AIDS diagnosis are not found in persons with healthy immune systems.

-- Kaposi's sarcoma (KS) is a rare cancer of the skin's blood vessels that first appears as small, blue-violet to brownish lesions on the trunk, arms, head, and neck and later develops into ulcerating sores or invades the lungs and other organs. Along with PCP, KS was an early hallmark of AIDS, but its diagnostic incidence is decreasing, especially compared to primary HIV Diseases (wasting syndrome and AIDS dementia). KS, by itself, is debilitating but rarely the principal cause of death in AIDS cases.

-- Other malignancies such as non-Hodgkin's lymphomas, when accompanied by the positive serologic test for HIV antibodies, have also been accepted by CDC since 1985 as indicated of AIDS. The prognosis for this group is poor, and the lymphomas are frequently found in unusual sites--the rectum, gastrointestinal system, or central nervous system.

Interstitial Pneumonia. Another atypical pneumonia constitutes the (current) last category of AIDS illness, set aside because it probably results from the activity of HIV itself, rather than a secondary agent. This pneumonia is found primarily in children and is highly resistant to treatment.

Some of the AIDS-associated diseases occur more frequently in different populations than others. For example, IV drug users--when diagnosed--are more likely to have PCP, tuberculosis, and mycobacterium avium-intracellular (MAI). Most cases of KS have been concentrated among gay men and are now noted increasingly among female sexual partners who are diagnosed with AIDS. Immigrants from the Third World tend to present with illness similar to American IV drug users as well as with toxoplasmosis and cryptococcal meningitis. The reasons for this variation in disease presentation are unknown, although it has been speculated to be a function of HIV transmission mode, cofactors, and/or health care history/access.

While AIDS-related symptoms and diseases have been recognized and classified in adults and children, no age-specific classification system for adolescents with HIV/AIDS exists. A combination of the CDC adult and pediatric classification systems is used for adolescents.

The natural course of HIV Disease in adolescents remains largely unstudied. Preliminary data suggests that adolescents are symptomatic longer than adults. Circumstantial data reveals two trends about the development of HIV Disease within adolescents:

1. The disease in adolescents who are hemophiliacs appears to progress at a slower rate than in either infants or adults.

2. Anecdotal reports point to a rapid progression of HIV Disease in street youths.

Symptoms particular to adolescents are weight loss or failure to gain during standard growth spurts.

HIV infection, as in adult and pediatric cases, manifests a broad range of illnesses and therefore takes a varied clinical course in adolescents. It is unknown which clinical manifestations predominate in adolescents.

Living with AIDS and Prognosis. The lives of persons with AIDS, between bouts of hospitalization for treatment of more and more frequently occurring and multiple infections, can be excruciating. Daily activities become very difficult and frequently impossible, as extreme fatigue, psychomotor, and vision impairment worsen. The physical appearance of "wasting away" and/or ulcerating sores is distressing, the embarrassment of incontinence or severe diarrhea, devastating. And, of course, amidst the physical ravages, there can be incalculable financial, family, and personal ruin resulting from the incredible social stigma that still attaches to an AIDS diagnosis. The needs of PWAs--beyond medical care--are enormous.

Survival time post-AIDS diagnosis has substantially increased since the first years of the epidemic, thanks in large part to better treatment techniques for opportunistic infections and to the release of the anti-viral drug AZT (see below). Still, the year-one mortality rate is 48% and it increases to 70% two years after diagnosis. Approximately 85% of all AIDS patients succumb within five years. Those who present with certain diseases like PCP seem to die faster. IV drug users usually die more rapidly than other risk group members, and one recent study found black female IV drug users to have the worst survival rate.

Those few (15%) PWAs who have enjoyed longer-term survival--five years or more post diagnosis--are a poorly studied group, which yields a very distorted picture of the prognosis for AIDS. What we do know about such survivors to date is that they tend to be white gay men, typically with only a KS diagnosis. One study further profiled survivors as hopeful fighters who refuse to accept AIDS as a death sentence, make lifestyle adjustments, attend to their health and fitness, and actively engage in a healing partnership with their health care providers, often including holistic treatments. Further study of long-term survivors should go a long way in helping to formulate effective tertiary prevention efforts (those aimed at mitigating the long-term consequences of advanced disease), including treatment.

TREATMENTS

Ten years after discovery of our first cases of AIDS, we still have no cure for HIV Disease, and the considerable activity devoted to vaccine and treatment development has yielded little.

A Vaccine - While vaccines have been a powerful line of primary prevention in the last 30 years, HIV presents numerous challenges. It mutates rapidly, and neutralizing antibodies are not apparently developed by the body for all strains of the virus. Moreover, the antibodies stimulated by a vaccine may be no more effective at protecting against HIV infection than those produced naturally. Finally, given HIV's ability

to quickly invade, hide, and reproduce within macrophages, it may still elude even a pre-alerted antibody response.

Although a dozen development projects are underway, a marketable vaccine for general distribution is not anticipated before 1995, if then. The formidable technical problems are at least equalled by legal liability problems of willing research subjects, because there are currently no adequate animal models for testing the reliability of the vaccine.

Anti-Infectives - Promising drugs to combat the secondary infections associated with AIDS have been increasingly identified--typically from sources outside the United States--and are being administered by individual physicians treating small numbers of patients. The National Institutes of Health currently run the AIDS clinical trials programs. Their purpose is to evaluate experimental drugs and therapies for adults and children at all stages of HIV infection.

As a result, pentamidine--a drug treatment for PCP--is now a widely recognized anti-infective treatment in the United States. An intravenous dosage has been approved by the FDA for treatment of active PCP for many years, and, more recently, an aerosolized dosage (for prophylaxis) has been approved. Pentamidine is widely accessible to PWAs, and less to persons who are not diagnosed with AIDS. Several other prophylaxis regimens are being evaluated, including dapsone and trimethoprim/sulfa (trade name is Bactrim or Septra).

Even with increased information on efficacy and improved availability, anti-infectives do not address the underlying HIV Disease. Thus, much treatment development has concentrated on therapies to either incapacitate HIV or restore the damaged immune system or both. Development of these so-called "anti-virals" and "immune-modulators" has also been handicapped by the established drug approval process.

Anti-Virals - A number of anti-viral drugs are now in different stages of laboratory testing and clinical trials. These all attempt to intervene in some stage of the viral life cycle--both HIV and secondary viruses such as CMV--and prevent further growth or reproduction. Theoretically, an effective drug could interfere with HIV's ability to invade and kill the T-4 cells by: (1) Altering the receptor on the cell or the protein coat of the virus to block binding; (2) Preventing entry of the virus into the host cell and uncoating of the protein envelope; (3) Interfering with the conversion of viral RNA into DNA; (4) Halting integration of the virus into the genetic code of the cell; (5) Blocking the virus' powerful chemical switch--that triggers the incredibly rapid reproduction of HIV; or (6) Preventing formation of new viral particles and their release from the infected cell.

One major problem is that the human body has difficulty tolerating drugs that are powerful enough to attack HIV. These drugs also need to be able to find HIV in macrophages and to pass the blood-brain barrier, where HIV can be harbored. They must also be safe and sufficiently nontoxic for prolonged use--possibly for a lifetime--and relatively simple to administer, preferably orally.

The only FDA-approved anti-viral to date is zidovudine or AZT (trade name, Retrovir), which disrupts the reverse transcriptase enzyme that HIV uses to convert its RNA genetic material into DNA and inhibits the synthesis of proviral DNA. By poisoning this enzyme, reproduction of HIV is slowed. Patients given this drug in early trials survived longer than counterparts who were given placebos. They also had fewer relapses of the opportunistic infections associated with AIDS. Unfortunately, AZT can itself be toxic and is expensive (maintenance supply calculated at $3,000 per year). Some people with AIDS cannot tolerate its side effects, and other HIV-infected people cannot afford it or qualify for the public subsidies for its purchase that are available to PWAs.

Many of the other anti-virals, all slowly making their way through the FDA approval process, are showing promising anti-viral properties and tolerable or nontoxic side effects. With years ahead before they are likely to approved, the FDA recently sanctioned individual import--at nonreimbursable personal expense--of such drugs.

Immune-Modulators - Early attempts at restoring the immune system and replenishing depleted T-4 cells through bone marrow transplants or white cell injections met with no measurable success. An increasing number of drug therapies aimed at stimulating and reactivating the immune system are in clinical trials. Initial study results on several of these show considerable promise of efficacy, especially in combination with anti-viral treatments.

EPIDEMIOLOGY OF HIV DISEASE: DEFINING THE PREVENTION TARGETS

In order to appropriately target primary prevention efforts (those that aim to prevent transmission of HIV), it is necessary to understand who is being infected, what behaviors they are engaging in, and any other key demographic characteristics of the "pool of infection" as it exists and changes over time.

Distribution of AIDS Cases by HIV Transmission Categories:

The distribution of AIDS cases among adults and adolescents is as follows:

HIV Transmission Risk Behavior	Cases in 1991	% of Adolescent Cases in Dec. 31, 1991	
		Male	Female
Male-Male Sex	53%	35%	--
IV Drug "Works"-Sharing	25%	--	--
Male-Male Sex & IV Drug Works-Sharing	5%	--	--
Heterosexual & IDU	--	8%	32%
Heterosexual	8%	1%	37%
Hemophiliac	1%	44%	2%
Recipients of Blood	2%	4%	7%
Undetermined	6%	8%	22%

A comparison of HIV transmission categories of adult and adolescent AIDS cases reveals the following:

- While male-male sex has always continued to be larger transmission category for adult AIDS cases, it ranks second for adolescents with AIDS.
- Similarly, although intravenous drug use is the second largest transmission category for adult persons with AIDS (PWAs), it ranks fourth for adolescents with AIDS>
- Heterosexual transmission is 5% of adult AIDS cases, yet 36% of adolescent cases of AIDS.

Additional information on adolescents and HIV follows:

- Male-male sex is practiced by heterosexually identifying adolescents. Incarcerated or detained youths engage in unprotected male-male sex.
- In addition to injection drug use, crack cocaine is contributing to the increase in heterosexual transmission of HIV. Drug experts state that crack cocaine causes hyper-sexuality in users. This factor combined with the exchange of sex for crack or sex for purchasing crack is contributing to the unabated spread of HIV.
- The practice of serial monogramy among adolescents is considered to be high-risk behavior. In this situation, the adolescent male or female moves in and out of a series of monogamous relationships. Sexual involvement with multiple sex partners increases that person's chance on contracting HIV.

Distribution of AIDS Cases by Age, Gender, and Race

As noted earlier, limited studies have been done on adolescents with AIDS. Hence, our information on this group is confined to the CDC Monthly HIV/AIDS Surveillance Report. Excerpts from this report are summarized below.

- Age - Nearly 90% of the Nation's AIDS cases have been between 20 and 49 years old - 46% of them in their thirties. This is fairly consistent across time and racial groups, although minority group members with AIDS have tended to be slightly younger. Note that given these trends in AIDS cases, the estimated incubation would be between ages 12 and 41, with the largest group in their twenties.
- Gender - Women contract AIDS much less frequently than men, accounting for less than eight

shared drug works. Thus, almost three-fourths (70%) of female AIDS cases are attributable, directly or indirectly, to drug abuse. All these percentages are on the increase. (At the end of 1986, female cases were only seven percent of the total; of the female cases, works-sharing comprised 51%; heterosexual cases, 22%; and combined drug-linked cases, 67%).

- **Race** - Similar to the disproportionate representation of Blacks and Latinos among the total number of adult AIDS cases, 56% of adolescent AIDS cases are minorities (Black = 35%, Hispanic = 19%).

AIDS measurement among other racial/ethnic groups in the United States. (e.g., Asian, Pacific Island, and Native Americans) suffers from reporting problems that have historically plagued epidemiological studies of small minority groups in the United States. Thus far, these groups appear to be reporting AIDS cases at rates below their representation within the general population. Asian/Pacific Islanders, for example, account for 1.6 percent of the population but .6 percent of AIDS cases. Similarly, Native Americans are one percent of the population and one percent of AIDS cases.

For specific and updated statistics call the South Dakota Department of Health at 1-800-592-1861 or the South Dakota Department of Education at (605) 773-3261.

Sample AIDS Curriculum — Scope and Sequence

	AIDS Is A Disease	AIDS Is A Preventable Disease	AIDS Affects Us All	AIDS Help Is Available
	Concept: There are some diseases that are communicable diseases AIDS is a communicable disease	**Concept:** There are skills to practice that will lead to a healthful lifestyle There are also specific methods of prevention for AIDS	**Concept:** There are social and economic implications of AIDS	**Concept:** There are community and area resources for information help and counseling
	Goal I: Recognize the causes and characteristics of communicable and noncommunicable diseases	**Goal II:** Identify the methods of preventing, treating and controlling diseases	**Goal III:** Evaluate the effects of disease on individuals families, communities and societies	**Goal IV:** Recognize the roles and responsibilities of local state and national health professionals organizations and agencies
	The student will:	**The student will**	**The student will**	**The student will:**
K	1 Describe the difference between being sick and being well 2 Understand that some diseases are 'caught' and some are not 'caught'.	1 Identify and practice healthy behaviors that reduce the chance of becoming sick	1 Recognize that people need friends both when they are well and when they are sick	1 Identify health helpers
1	1 Identify common communicable and noncommunicable diseases 2 Describe how common communicable diseases are usually spread	1 Identify and practice healthy behaviors that reduce the spread of communicable diseases	1 Describe how family members show care and help one another during times of illness	1 Explain why immunizations are given before entering school
2	1 Understand that communicable diseases are spread from one person to another in a chain effect	1 Explain how good health habits prevent disease 2 Understand personal responsibility in the prevention and control of disease	1 Recognize death as a natural step in the life of animals and humans 2 Recognize the need to express emotions about death/loss to friends and family	1 List local health professionals
3	1 Understand that some diseases are caused by microorganisms including viruses and bacteria 2 Understand that the immune system helps protect the body from disease	1 Identify diseases caused by microorganisms that have been controlled 2 Identify personal actions necessary for continued control of these diseases	1 Understand the effect of an epidemic on a community	1 Understand that scientists all over the world are trying to find a cure for diseases caused by microorganisms
4	1 Identify AIDS (Acquired Immune Deficiency Syndrome) as a disease that is difficult to get 2 Identify AIDS as a disease caused by a virus 3 Explain how the AIDS virus attacks the body's immune system	1 Understand personal responsibility in seeking accurate health information 2 Discuss common misunderstandings about the transmission of the AIDS virus	1 Discuss how lack of accurate information leads to anxiety, uncertainty, and fear	1 Identify local resources which provide accurate information about AIDS
5	1 Explain the structure and function of the reproductive system	1 Discuss the importance of making responsible decisions that promote good health	1 Explain the importance of taking responsibility for oneself and others 2 Explain the importance of self-respect	1 Discuss state resources which provide accurate information about AIDS
6	1 Understand the modes of transmission of HIV (Human immunodeficiency Virus) and other STDs (Sexually Transmitted Disease)	1 Review and practice decision-making skills	1 Discuss the abuse of alcohol and drugs as it affects behavior	1 Understand the role of the Centers for Disease Control in health promotion and disease control
7	1 Understand the origin of the AIDS virus 2 Review in detail the immune system and the effects of HIV on it	1 Explain the routes of transmission of HIV 2 Discuss those behaviors which put individuals at high risk for getting AIDS	1 Examine the consequences that acquiring AIDS has on an individual family and community	1 Review local resources available for AIDS information
8	1 Compare communicable and noncommunicable diseases 2 Analyze the chain of infection as it relates to common communicable diseases including AIDS	1 Analyze risk behaviors and relate them to the chain of infection 2 Predict ways the AIDS chain of infection can be broken	1 Analyze public reaction to persons with AIDS and identify reasonable and unreasonable reactions 2 Examine the consequences of choosing unhealthy behaviors on the individual family, and community	1 Discuss the responsibility of the media in giving accurate information about AIDS
9 thru 12	1 Identify and list the causes routes of transmission, and symptoms of AIDS and other STDs 2 Describe the levels of HIV infection 3 Explain how a healthy immune system functions and what happens when the immune system is invaded by HIV 4 Apply information concerning AIDS to the communicable disease chain	1 Understand importance of abstaining from sexual activity until a mutually monogamous relationship is established within the context of marriage 2 Understand the importance of abstaining from illegal drug use 3 Identify behaviors that reduce the risk of acquiring HIV infection 4 Review and practice decision-making skills	1 Distinguish facts myths, opinions and unknowns relating to AIDS 2 Examine ethical issues related to AIDS a right to know vs confidentiality b testing c discrimination d banking blood 3 Examine the physical emotional and family needs of people with AIDS and the financial costs of caring for them 4 Demonstrate ways in which they can show caring for a person with AIDS	1 Compare health and health related organizations which provide AIDS information for individuals and groups a Counseling services b Self help groups c Social service support d Testing programs e Substance abuse treatment programs f Mental health services g Religious organizations h Hot lines i Hospital/medical treatment 2 Consider how each AIDS related resource fulfills a responsibility where there are omissions or overlaps and what still remains to be done 3 Discuss the issues related to the financial impact of AIDS on individuals families and societies

Prepared by SD Dept of Health
Division of Health Services
Division of Public Health
SD Dept of Education and Cultural Affairs

SAMPLE

CURRICULUM

Seventh Grade

SEVENTH GRADE

GOAL I: Recognize the causes and characteristics of communicable and noncommunicable diseases.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will: 1. Understand the origin of the AIDS virus. 2. Review in detail the immune system and the effects of HIV on it.	1. Using information provided, the teacher will prepare appropriate units. (Teacher Information pp. 169-172) NOTE: Review Grade 6 Teacher Information.	Suzanne LeVert, AIDS: In Search of a Killer, Julian Messner, New York, 1987. Marcia Quackenbush and Pamela Sargent, Teaching AIDS - A Resource Guide on Acquired Immune Deficiency Syndrome, Network Publications, Santa Cruz, 1988.

TEACHER INFORMATION

Background

The purpose of this lesson is to help students to recognize that a person may appear healthy outwardly, yet still be a carrier of the Human Immunodeficiency Virus (HIV) and be able to pass it on to others. Symptoms of many infections include night sweats, swollen glands, weight loss, etc. When AIDS or AIDS Related Complex (ARC) is involved, these symptoms are severe and persistent.

The current laboratory test for HIV reveals antibodies in the blood. The antibodies show up anywhere within the spectrum which is included in diagram form.

The activity of composing a letter allows students to express the wide range of concerns and confusions someone might experience. It also allows an opportunity to bring home to students just what AIDS has to do with them, and helps them to recognize that AIDS is not just a disease of "other people." It also can serve to dispel unnecessary fear, by providing accurate information.

Teacher Vocabulary

AIDS – The initials for the disease "Acquired Immune Deficiency Syndrome." A disease caused by a virus which breaks down the body's immune system, making it vulnerable to opportunistic infections and cancer.

Antibodies – Substances in the blood produced by the body's immune system to fight against invading organisms.

Antigen – A substance that stimulates the production of antibodies.

ARC – AIDS Related Complex. A condition caused by the HIV in which the individual tests positive for HIV and has a specific set of clinical symptoms that are often less severe than those of AIDS.

Asymptomatic – No apparent symptoms of illness even though the individual tests positive for the HIV.

Carrier – A person who harbors a specific infectious agent in the absence of clinical disease and serves as a potential source of infection.

HIV – The Human Immunodeficiency Virus. It causes AIDS by attacking the body's immune system, making infected people vulnerable to fatal infections, cancer, and neurological disorders.

Immune system – A body system that helps fight off invading organisms and disease.

Incubation period – The time interval between invasion by an infectious agent and appearance of the first sign or symptom of the disease in question.

Kaposi's sarcoma – A cancer or tumor of the blood and/or lymphatic vessel walls. It usually appears as blue-violet to brownish skin blotches or bumps.

Opportunistic infection – An infection caused by a microorganism that rarely causes disease in persons with a normal immune system.

Pneumocystis carinii pneumonia – The most common life-threatening opportunistic infection diagnosed in AIDS patients. It is caused by a parasite, Pneumocystis carinii.

Spectrum – A range of factors associated with HIV infection or a range of outcomes.

Syllabus Connection

VI Diseases and Disorders – understanding diseases and disorders and taking actions to prevent or to limit their development. (pp. 28-29)

Values Integration

Reasoning/understanding the spectrum of infection of the AIDS virus

SPECTRUM OF HIV INFECTION

	ASYMPTOMATIC	ARC AIDS RELATED COMPLEX	AIDS
External Signs	• No symptoms • Looks well	• Fever • Night sweats • Swollen lymph glands • Weight loss • Diarrhea • Minor infections • Fatigue	• Kaposi's sarcoma • Pneumocystis carinii pneumonia and other opportunistic infections • Neurological disorders
Incubation	• Invasion of virus to 3 months	• Several months to 10 years	• Several months to 10 years
Internal Level of Infection	• Antibodies are produced • Immune system remains intact • Positive antibody test	• Antibodies are produced • Immune system weakened • Positive antibody test	• Immune system deficient • Positive antibody test
Possible to Transmit HIV	• Yes	• Yes	• Yes

Objective	AIDS is a communicable disease.
Learner Outcome	Know that a person can transmit the AIDS virus even if he/she looks healthy.
Comprehensive Health Education Topic(s)	VI Diseases and Disorders
Values Integration	Reasoning: Understanding the spectrum of infection of the AIDS virus.

Motivating Activity	The teacher will distribute this "Dear Sam" letter to each student: Dear Sam: What is the AIDS virus? What does it mean when someone has the AIDS virus...? All the TV and news stories are confusing me. CONCERNED
Identification	The teacher will draw the AIDS virus (HIV) spectrum on the board with three stages: • asymptomatic • ARC • AIDS Students will identify internal and external signs of the disease for each of the three stages.
Effective Communication	Students will compose a response to CONCERNED's letter.
Decision Making	Students will decide how CONCERNED should be answered.

Positive Health Behaviors	Students will know that a person can transmit the AIDS virus whether he/she looks healthy or ill.

SEVENTH GRADE

GOAL II: Identify the methods of preventing, treating, and controlling diseases.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will: 1. Explain the routes of transmission of HIV. 2. Discuss those behaviors which put individuals at high risk for getting AIDS.	1. Using information provided, the teacher will prepare appropriate units. NOTE: Review Grade 6 Teacher Information. 2. Students will complete an AIDS myth/fact sheet. (Teacher Information pp. 174-177) 3. Students will complete "AIDS: Rank the Risk" activity sheet. (Worksheet 7-A)	Video AIDS: Everything You and Your Family Need to Know...But Were Afraid to Ask, HBO Studio Productions, Ambrose Video Publishing, Inc., New York, 1987. Pamphlet "Guidelines for Effective School Health Education to Prevent the Spread of AIDS," Morbidity and Mortality Weekly Report, Vol. 37, No. S-2, Centers for Disease Control, Atlanta, January 29, 1988.

TEACHER INFORMATION

Background

For this activity we have used the term "the AIDS virus" to help the students relate to what they read and hear about AIDS. The more accurate designation is that Human Immunodeficiency Virus (HIV) is the transmitter of the disease AIDS.

A true-false quiz is used to clarify information students have or should have. This quiz is repeated in increasingly complex form through grades 4-12. It is important for you to review regularly accurate, up-to-date information stressing especially the ways AIDS is and is not transmitted. Correcting misinformation can reduce the fears that could get in the way of practicing skills that will protect oneself, and others, from AIDS.

Adapt the "AIDS MYTH-FACT SHEET" to suit the needs of your students and distribute to each student. Have students respond to each statement and correct their own mistakes. The lesson allows for correction of misinformation during a discussion of student responses. An answer sheet is included for your convenience.

While good health practices do not include sharing makeup and towels, the information is included to stress ways AIDS is *not* transmitted. This is also an opportunity to reinforce that sitting next to a student with AIDS does not put one at risk because the AIDS virus is not transmitted by casual contact.

Special Considerations

Information on sexual intercourse may be introduced in this lesson. Because the knowledge level about human reproduction varies according to local curriculum and the knowledge of individual students, the lesson should be adjusted to insure that the information presented and the student's preparation for the lesson match. Adjustments in the lesson or prerequisite lessons may be necessary.

Syllabus Connection

VI Diseases and Disorders – understanding diseases and disorders and taking actions to prevent or to limit their development. (pp. 28-29)

Values Integration

Respect for self/awareness and concern for one's own health

Reasoning/understanding the process of AIDS transmission

Objective	AIDS is a communicable disease.
Learner Outcome	Know ways the AIDS virus can and cannot be transmitted.
Comprehensive Health Education Topic(s)	VI Diseases and Disorders
Values Integration	Reasoning: Understanding the process of AIDS transmission. Respect for Self: Awareness and concern for one's own health.

Motivating Activity	The teacher will distribute the AIDS MYTH-FACT SHEET.
Identification	Students will identify the ways that the AIDS virus can be transmitted: • sharing needles (IV drug use) • sexual intercourse with an infected partner • infected mother to unborn baby • transfusion of infectious blood or blood fractions Students will identify ways that the AIDS virus cannot be transmitted: • sneezing • sharing makeup, towels • using public toilets • using swimming pools • eating at a restaurant • being in the same class with someone who has AIDS
Effective Communication	Students will discuss ways the AIDS virus can and cannot be transmitted.
Decision Making	Using the AIDS MYTH-FACT SHEET, students will decide under which circumstances the AIDS virus can be transmitted.

Positive Health Behaviors	Students will understand the ways the AIDS virus can be transmitted. Students will recognize the ways that the AIDS virus cannot be transmitted.

AIDS MYTH-FACT SHEET FOR LESSON #20
(grades 7-8)

Put a T in front of each statement that is true and an F in front of each statement that is false.

1. The AIDS virus is *only* transmitted through infected semen and infected blood.
2. The AIDS virus is transmitted by hugging and kissing.
3. AIDS is a disease that can be transmitted in a limited number of ways.
4. People can look and feel healthy and still transmit the AIDS virus.
5. People who shoot drugs and share needles can get AIDS.
6. There is a vaccine to prevent AIDS.
7. Women can transmit the AIDS virus.
8. Everyone who engages in sexual intercourse is at risk for AIDS if an infected partner is involved.
9. Everyone infected with the AIDS virus has developed AIDS.
10. A person can get AIDS from giving blood.
11. There are national and State toll-free, telephone hotlines that provide AIDS information.

Answers to AIDS MYTH-FACT SHEET #20

1. False
2. False
3. True
4. True
5. True
6. False
7. True
8. True
9. False
10. False
11. True

The U.S. Public Health Service 24-hour AIDS national hotline phone number is: 1-800-342-AIDS. The South Dakota State Hotline is 1-800-592-1861.

NAME_____DATE_____CLASS_____

ACTIVITY: AIDS: Rank the Risk

DIRECTIONS: Rate the following in terms of risk for transmission of the AIDS virus. In which of these following activities or behaviors is there a greater degree risk.

KEY:
1 - No Risk; Safe
2 - Theoretically Possible but Not Probable
3 - Minimal Risk; Protection Measures Could Be Taken
4 - Risk; Risk Reduction Measures Could Be Taken
5 - High Risk

_____ Going to school with a person who has AIDS

_____ Providing emergency care to someone injured in a car accident

_____ Living in the same home as a person with AIDS virus infection

_____ Having more than one sexual partner at one time

_____ Getting injured in some activity at the same time as someone else and coming into contact with their blood

_____ Being born to a mother who has the AIDS virus

_____ Using a needle for IV drugs that someone else has used

_____ Using condoms and spermicides during sexual intercourse every other time

_____ Being sneezed on by someone who has the AIDS virus

_____ Piercing your ears

_____ Sharing a needle and syringe for injecting anything

_____ Having received blood or blood products before March 1985

_____ Providing first aid - direct pressure to a bleeding wound

_____ Providing CPR to someone known to have the AIDS virus

_____ Having one sexual partner at a time

_____ Abstaining from sex

_____ Deciding not to have sex, then drinking at a party and being pressured to have sex by your girlfriend/boyfriend

_____ Providing dental care to someone with AIDS virus infection

NOTE TO EDUCATOR:
Purpose: Elicit discussions about risk behaviors.
Learner Outcomes: 14,15,16,18,23,24,30,35,36
Directions: Relative risk depends on risk behavior and risk group. It is a process activity students can discuss all the variables and clarify myths and facts about transmission. Have students list other risk behaviors.

Worksheet 7-A

SEVENTH GRADE

GOAL III: Evaluate the effects of disease on individuals, families, communities, and societies.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will: 1. Examine the consequences that acquiring AIDS has on an individual, family, and community.	1. Using the factual information students have gained and the information provided, the teacher will lead a class discussion on the social implications of AIDS. (Teacher Information pp. 180-187)	Scientific American, Vol. 259, No. 4, October 1988. Scholastic Update, Vol. 120, No. 4, October 16, 1987.

TEACHER INFORMATION

AIDS: THE PREVENTABLE EPIDEMIC
GRADES 6-8

OBJECTIVE:

The student will demonstrate the ability to analyze the social implications of the AIDS epidemic to further integrate unit information.

MATERIALS:

Policy Guidelines, Pages

VOCABULARY:

Confidentiality, discrimination, policy, other vocabulary based on policies introduced

PROCEDURES:

1. Ask students to quiz each other on infection control procedures either verbally or through demonstration.

2. Explain that the purpose of the final lesson is to continue to explore the fear that others have about AIDS and how it affects not only first aid situations but the rights of individuals with AIDS.

3. List some of the social issues in AIDS. Based on this information, put students in small groups to discuss the following questions:

   What are some of the feelings people have about AIDS and persons with AIDS.
   How does AIDS change the life of a person infected?
   How can the AIDS epidemic change our lives?

4. After sharing ideas as a class on the above questions, tell the small groups to discuss their feelings about a student with AIDS attending class with them. What special, if any, measures should be taken for a student diagnosed with AIDS. List the group ideas.

5. Tell students that school districts are writing policies to protect all students from the spread of HIV as well as protect the rights of those infected with HIV.

6. Provide examples of policies for students to review in small groups. As a class, ask students to identify key points found in a policy such as confidentiality, factual information and infection control procedures.

7. Assign students the task of developing a model policy for their school. This can be done individually or in small groups.

8. Allow time for policy development in class and sharing of policies.

EVALUATION:

Grading could be based on the criteria presented in the policy assignment.

SOCIAL ISSUES

Below are some of the social issues in AIDS that can be useful for class discussion.

Persons with HIV infection, ARC and AIDS are confronted with a variety of issues:

1. Dealing with the diagnosis and the possibility of death.
2. Telling loved ones of the diagnosis, facing possible rejection.
3. Facing high health care costs.
4. Finding doctors, dentists and other health care workers to care for them.
5. Being fired from their jobs. Not being able to get jobs because of illness.
6. Eviction from homes they rent.
7. Facing protests from the community or parents not wanting the person to attend school.
8. Handling the misinformation and prejudice of others.

Below are examples of how we should respond to persons with AIDS.

Persons with HIV infection, ARC and AIDS should receive:

1. Understanding and compassion.
2. Access to competent medical care and treatment.
3. Right to work based on reasonable accommodations if needed.
4. Right to attend school.
5. An important role in society and not be viewed as or called "victims."
6. A care system that provides medical and emotional support.
7. All the opportunities of any other person.
8. Confidentiality.
9. The right to live where they choose.
10. A discrimination - free environment.

SOUTH DAKOTA DEPARTMENT OF HEALTH

DIVISION OF PUBLIC HEALTH

STATE POLICY FOR SCHOOL-AGE CHILDREN WITH AIDS

SUMMARY

1. Children infected with the AIDS virus should be allowed to attend school in a normal classroom setting. There is a negligible risk of AIDS transmission in the school setting.

2. Some AIDS-infected children may pose more of a risk to others -- those who lack control of their body fluids, display biting behavior, or have uncoverable oozing sores.

3. For those AIDS-infected children who pose a greater risk, the South Dakota Secretary of Health will authorize an expert Advisory Committee to review and provide recommendations for the child's appropriate placement in an educational setting.

4. The local school will bear the burden of proof of demonstrating that the infected child exhibits behaviors or symptoms which would justify a restricted placement in an educational setting.

5. Children placed in a restricted educational setting must be provided with all legally required education programs.

6. Good hygiene practices and procedures must be established and always followed in the school setting when handling blood or body fluids to prevent the spread of communicable diseases, including the AIDS virus.

7. Children with suppressed immune systems are at increased risk of severe complications from diseases, chickenpox, for example. The physician and parents need to determine whether a child should not attend school for his or her own protection.

8. Children with suppressed immune systems should not receive live virus vaccines.

9. As specified by state law, the child's right to privacy must be respected, and strict confidentiality of records must be maintained.

10. Routine AIDS screening of children is not recommended. Screening should not be a requirement for school entry.

Summary of Policy Implemented: March 12, 1986; not to be adopted in place of the complete policy.

523 E Capitol Pierre, SD 57501-3182 (605) 773-3364

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RECOMMENDED GUIDELINES FOR DEALING WITH AIDS IN THE SCHOOLS

(Adopted by Board of Directors, October 4, 1985, and revised, June 30, 1986)

Every school district, college, and university should establish guidelines for dealing with the problems presented by students and school employees who have or could transmit AIDS to other students and school employees. The recognized employee organization should be involved in the development of these guidelines, and any dispute as to their meaning or application should be subject to the appropriate grievance/arbitration procedure. The guidelines should be reviewed periodically, and revised as necessary to reflect new medical information regarding AIDS.

On the basis of presently available medical information, NEA recommends the following guidelines (the terms "infected students," "infected school employee," and "infected individual" are used in these guidelines to apply both to persons who have been diagnosed as having AIDS or ARC (*i.e.*, AIDS Related Complex) and to persons who are "asymptomatic carriers," *i.e.*, those who have been infected by the AIDS virus and are capable of transmitting it but who have not developed any of the symptoms of AIDS):

1. (a) Infected neurologically-handicapped students who lack control of their bodily secretions, or who display behavior such as biting, vomiting, etc., and infected students who have uncoverable, oozing lesions, shall not be permitted to attend classes or participate in school activities with other students.

   (b) The determination of whether an infected student who is not excluded pursuant to Section 1(a) above shall be permitted to attend classes or participate in school activities with other students shall be made on a case-by-case basis by a team composed of public health personnel, the student's physician, the student's parents or guardian, and appropriate school personnel, which shall include the infected student's primary teacher(s). In making this determination, the team shall consider: (1) the behavior, neurological development, and physical condition of the student; (2) the expected type of interaction with others in the school setting; and (3) the impact on both the infected student and others in that setting. It is the intention of these guidelines that the determination of student placement be based solely on scientific and medical evidence, and not on unfounded fears of AIDS or public pressure.

(c) No school employee shall be terminated, nonrenewed, suspended (with or without pay), transferred or subjected to any other adverse employment action solely because he or she is an infected individual.

2. (a) A school employer may not require school employees to be tested for the AIDS antibody.

(b) Except as provided below, there shall be no mandatory testing of students for the AIDS antibody as a condition of his or her attending classes or participating in school activities with other students.

(c) If a school employer has reasonable cause to believe that a student is an infected individual.[1] the school employer may require said student to submit to an appropriate medical evaluation.

(d) The sexual orientation of a student shall not constitute reasonable cause to believe that he or she is an infected individual. No student shall be required to provide information as to his or her sexual orientation.

3. If an infected student in grades K through 12 is not permitted to attend classes or participate in school activities with other students, the school employer shall make every reasonable effort to provide said student with an adequate alternative education. To the extent that this requires personal contact between the student and school employees, only those school employees who volunteer shall be utilized.

4. A school employee shall not be required to teach or provide other personal contact services to an infected student, unless a determination has been made pursuant to Section 1 above to permit said student to remain in the school setting. NEA and its affiliates shall provide appropriate legal assistance to any school employee who is subjected to adverse action by a school employer because he or she refuses to teach, provide personal contact services to, or work with an infected student, or a student who there is reasonable cause to believe is infected, unless a determination has been made pursuant to Section 1 above to permit said student to remain in the school setting.

5. The identity of an infected individual or an individual who there is reasonable cause to believe is an infected individual shall not be publicly revealed. If an infected student is permitted to remain in the school setting after a determination has been made pursuant to Section 1 above, school employees who are likely to have regular personal contact with said student shall be informed of his or her identity by the school employer, and be provided with appropriate information as to said student's medical condition, including information as to any factors that might warrant a reconsideration of whether he or she should be permitted to remain in the school setting.

6. School systems shall take the appropriate steps to ensure that the proper equipment for handling blood or body fluids is available in all school buildings.

7. School employees who have regular contact with infected students shall receive training and proper equipment for handling the blood or body fluids of such students.

8. The school employer shall take appropriate steps to educate students, parents, and school employees regarding AIDS and its transmission.

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[1] This refers to infected students who suffer from a disorder of the nervous system that is the cause of the indicated symptoms. For further definition, see Federal Centers for Disease Control recommendations regarding education of children infected with AIDS, printed in *Morbidity and Mortality Weekly Report*, August 30, 1985, Vol. 34, No. 34.

[2] Reasonable cause would exist, for example, if it is known that the student has had sexual relations with an AIDS-infected individual or if a school nurse or other qualified medical person documents that the student is suffering from identifiable symptoms of AIDS. Testing would not be justified, for example, solely because a student's sibling has AIDS.

Department of Human Resources

OREGON HEALTH DIVISION'S GUIDELINES FOR SCHOOLS WITH CHILDREN WHO HAVE HEPATITIS B VIRUS OR HUMAN T-LYMPHOTROPIC VIRUS INFECTIONS

November, 1985

These guidelines were prepared as recommendations for school administrators developing policies and procedures for providing education in a safe manner to children infected with either the hepatitis B virus or the virus which causes AIDS (acquired immunodeficiency syndrome).

I. Background

A. General

Hepatitis B and AIDS are serious illnesses which are spread from one person to another primarily by sexual contact, and in certain circumstances, by blood contact. Hepatitis B virus infections are much more common in Oregon school children than AIDS virus infections. The risk of spread of either disease in the school setting is extremely low. Since the basic measures to reduce this low risk even further are similar for the two diseases, the guidelines for both are presented together.

B. Hepatitis B is a serious illness. Some infected persons develop no illness, but most older children and adults who are newly infected with the hepatitis B virus have a few weeks of illness and recover completely. Most of those who recover are infectious for a few weeks or months. About 5% to 10%, however, become chronic carriers of the hepatitis B virus. This carrier state may persist for a lifetime; it poses significant risk of serious chronic liver disease. About 40% of infants born to carrier mothers become carriers themselves.

A carrier may be infectious to others. The virus is not spread, however, by ordinary social contact. Instead, transmission occurs only when a body fluid such as blood, semen, or saliva from an infected person is introduced through *broken* skin or onto the mucous membranes of the eye, mouth, vagina or rectum. *The virus does not penetrate intact skin.* Specific methods of spread include sexual contact, sharing needles, exposure of cut or scratched skin to blood from a carrier, splash of blood into the mouth or eye, and biting by a carrier.

Carriers are not frequent in the general school age population, but children from certain groups are at somewhat increased risk of being carriers. These include children of Southeast Asian refugees, handicapped children who have lived in a large institution for the mentally retarded, and the children of intravenous drug abusing parents.

No significant risk of hepatitis B transmission has been documented in the school setting. The risk of transmission there, if any, is limited to students exposed to others exhibiting aggressive behaviors, such as biting or scratching, and to persons providing first aid to carriers with bleeding injuries.

An effective vaccine is available to protect against hepatitis B infection. This hepatitis B vaccine is given in three doses over a six month period. The three dose series costs over $100, plus charges for administering it. It is a safe vaccine: a sore arm occurs frequently at the injection site, but more serious side effects have not been documented.

C. AIDS or human T-lymphotropic virus-III (HTLV-III) infection

The cause of AIDS is the human T-lymphotropic virus-III (HTLV-III). AIDS is a serious illness, which essentially always leads to death. Most people infected with HTLV-III, however, do not develop AIDS at least over the first five or six years after they become infected. Some develop a milder illness called AIDS-Related Complex, while the majority do not develop any illness at all.

Current evidence suggests that nearly all persons who become infected with HTLV-III will continue to carry the virus in their blood for the rest of their lives even if they do not develop AIDS.

As with the hepatitis B virus, HTLV-III is not spread from one person to another by casual social contact. Spread occurs only when a body fluid, such as blood or semen, is introduced through *broken* skin or onto the mucous membranes of the eye, mouth, vagina, or rectum. HTLV-III has been isolated from blood, semen, saliva, and tears of AIDS patients, but transmission by saliva and tears has not been documented. Specific methods of spread have included sexual contact, sharing of IV needles, and transfusion of contaminated blood or blood products.

Adults at increased risk of infection have included homosexual and bisexual males, IV drug abusers, persons transfused with contaminated blood or blood products, and sexual contacts of persons with AIDS or at-risk of AIDS.

Most infected children have acquired the virus from their infected mothers, either before or during birth. Some have been infected by contaminated blood or blood products.

Available evidence indicates that the casual person-to-person contact that occurs among schoolchildren poses no risk of HTLV-III transmission. No case of AIDS or other HTLV-III infection in the U.S. is known to have resulted from spread in the school or day care setting or from other casual person-to-person contact. Except for sexual partners, needle-sharing partners, and infants born to infected mothers, no family member of an AIDS case in the U.S. has been reported to have AIDS. Furthermore, six special studies of family members of HTLV-III infected persons have found no evidence of spread to any household contacts except for sexual partners, needle sharing partners, or infants born to infected mothers.

If any risk of spread in the school setting exists, it would be limited to situations where open skin lesions or mucous membranes would be exposed to blood from an infected person. One example is a teacher providing first aid for a bleeding injury and getting blood into an open sore on his or her own hand. Another example is an aggressive, neurologically handicapped, or pre-school aged child significantly exposing other children by biting or mouthing behaviors.

Some children with HTLV-III infections may be at increased risk of serious illness if exposed to certain infections such as chickenpox, measles, tuberculosis, herpes simplex, and cytomegalovirus.

D. Legal Issues

Among the legal issues to be considered in forming policies for the education of children with hepatitis B or HTLV-III infections are the confidentiality of the student's record, the employee's right-to-know, the responsibility of the school district to provide a safe and healthy environment for students, the civil rights aspects of public school attendance, and the protections for handicapped children.

E. Confidentiality Issues

School personnel, parents, and others involved in the education of children with hepatitis B or HTLV-III infections should be aware of the potential for social isolation should the child's condition become known to others. They should be sensitive to the need for confidentiality.

II. Recommendations

A. General

1. Intensive education about hepatitis B and HTLV-III infection should be provided, *as soon as possible*, to school personnel and the general public. This education should emphasize information about how the infections are spread and how they are not spread. It should be done *before* problems arise in individual schools. The Oregon Health Division, local health departments, Oregon Department of Education, Education Service Districts, and local school districts should cooperate to develop and deliver this education.
2. Because of the small risk of blood-borne hepatitis B transmission from carriers who are not known to be infected, and because most HTLV-III-infected children will not be identifiable, general precautions should be observed by first aid providers in *all* situations involving exposure to blood. These precautions apply to bleeding injuries of *all* children, not just those known or suspected to be infected:
   a. If you have cuts, scratches, or other lesions on your hands, wear disposable plastic gloves when providing first aid for bleeding injuries.
   b. You should wash your hands immediately after completing the first aid.
   c. Avoid getting blood from an injured child in your mouth or eyes. If such an exposure occurs, rinse the eye or mouth thoroughly with water.
   d. Clean up any spilled blood with soap and water, followed by disinfection with a freshly made solution of one part bleach to 10 parts water.
   e. Place blood-contaminated items such as gloves, bandages, and paper towels in a plastic bag, tie it closed, and put it in the garbage receptacle.
   f. Report the first aid situation to your supervisor.
3. The following precautions should be applied in classrooms, particularly those serving handicapped individuals. These include:
   a. A sink with soap, running water, and disposable towels should be available close to the classroom.
   b. Sharing of personal toilet articles, such as toothbrushes and razors, should not be permitted.
   c. Skin lesions which may ooze blood or serum should be kept covered with a dressing.
   d. Exchange of saliva by kissing on the mouth, by sharing items which have been mouthed, and by putting fingers in others' mouths should be discouraged.
   e. Environmental surfaces which may be regularly contaminated by students' saliva or other body fluids should be washed daily with soap and water.

B. Hepatitis B—Specific Recommendations

1. Attempts to specifically identify carrier children are generally discouraged. The exceptions to this are the previously institutionalized, handicapped individuals who are subject to frequent injuries, who have frequent visible bleeding from the gums, or who have aggressive or self-destructive behaviors (biting, scratching, etc.) that may lead to bleeding injuries. Such an individual should be screened for the hepatitis B carrier state. The hepatitis B surface antigen (HBsAg) blood test should be used. If the test is positive, see (2) below.
2. If a student is identified to be a hepatitis B carrier, the local health department should be consulted for individualized special precautions to be incorporated into the educational program for that child. Such precautions may include restricting contacts with other students and assuring that the teaching staff is immunized.
3. School staff members who provide direct personal care to previously institutionalized, handicapped students should be advised by the local school district of the availability of hepatitis B vaccine and encouraged to consult with their personal physician or local health department for information about it.
4. The parents or residential caretakers of handicapped students who are likely to have ongoing classroom or household contact with previously institutionalized, handicapped individuals should be advised of the availability of hepatitis B vaccine and encouraged to consult with their personal physician or health department for information about it.
5. *All* school staff members, including custodians, bus drivers, and secretaries, should be fully informed of these recommendations as part of annual inservice training.

C. AIDS—Specific Recommendations

1. AIDS is a legally reportable disease. When a child under age 21 with AIDS is reported, the Health Division or county health department will immediately request the parent(s) or guardian(s), if they wish the child to continue to receive education, to notify the local school district superintendent. The local health officer or Division administrator will issue an order to exclude the child from school, until the school superintendent has been notified and an educational program has been planned for the child. In order to determine whether special measures are necessary for continuing the education of the child, the superintendent and health agency should convene a planning team, which should include the child's parent(s) or guardian(s), the child's physician, the school nurse, and representatives of the Division, the local health department, the local school district superintendent, and the Department of Education.

   For the preschool child receiving regular care outside the home, the team should include the child's parent(s) or guardian(s), the child's physician, Division and local health department representatives, and a representative of the care provider.
2. Decisions regarding the type of educational and care setting for children with AIDS should be based on the behavior, neurologic development, and physical condition of the child and the expected type of interaction with others in that setting.
3. In general, it is expected that HTLV-III infected school-aged children (K-12) will be able to attend school without restriction.
4. In general, it is expected that, until more is known about the degree of risk, HTLV-III infected children under the age of five years will face some restriction of contact with other children in school and day care settings.
5. For some neurologically handicapped children who lack control of their body secretions or who display behaviors, such as biting, and those children who have uncoverable, oozing lesions, a more restricted environment is advisable until more is known about transmission from such individuals. Such children infected with HTLV-III should be cared for and educated in settings that minimize exposure of other children to blood or body fluids.
6. Strict confidentiality should be maintained in accordance with state and federal laws and local school district policies. Knowledge of the child's condition should be shared with others only if the school superintendent determines it is necessary to do so after receiving recommendations from the team.
7. Care involving exposure to the infected child's body fluids and excrement, such as feeding and diaper changing, should be performed by persons who are aware of the child's AIDS status and the modes of possible transmission. In any setting involving a person with AIDS, good handwashing after exposure to blood and body fluids and before caring for another child should be observed, and gloves should be worn if open lesions are present on the caregiver's hands. Any open lesions on the infected person should be covered.
8. Reevaluation of the individual child's need for a restricted environment should be done regularly, as well as upon special request by the teacher or principal, for the hygiene practices of the child may improve or deteriorate.
9. All school staff members, including custodians, bus drivers, and secretaries, should be fully informed of these recommendations and basic hygiene practices as part of annual inservice training.

SEVENTH GRADE

GOAL IV: Recognize the roles and responsibilities of local, state, and national health professionals, organizations, and agencies.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will: 1. Review local resources available for AIDS information.	1. Information presented will be based on local resources available.	

Eighth Grade

EIGHTH GRADE

GOAL I: Recognize the causes and characteristics of communicable and noncommunicable diseases.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will: 1. Compare communicable and noncommunicable diseases. 2. Analyze the chain of infection as it relates to common communicable diseases, including AIDS.	1. Using information provided, teachers will prepare appropriate units. (Teacher Information pp. 191-197)	

SAMPLE LESSON PLAN: Junior High/Senior High School

Sample Learner Outcome: The risk of becoming infected is increased by having a sexual partner who is at increased risk of having contracted the AIDS virus (as identified previously), practicing sexual behavior that results in exchange of body fluids (i.e., semen, vaginal secretions, blood), and using unsterile needles or paraphernalia to inject drugs.

Sample Specific Objective: Student will understand the "chain of infection" for the AIDS virus and how to break it.

Acquiring Information

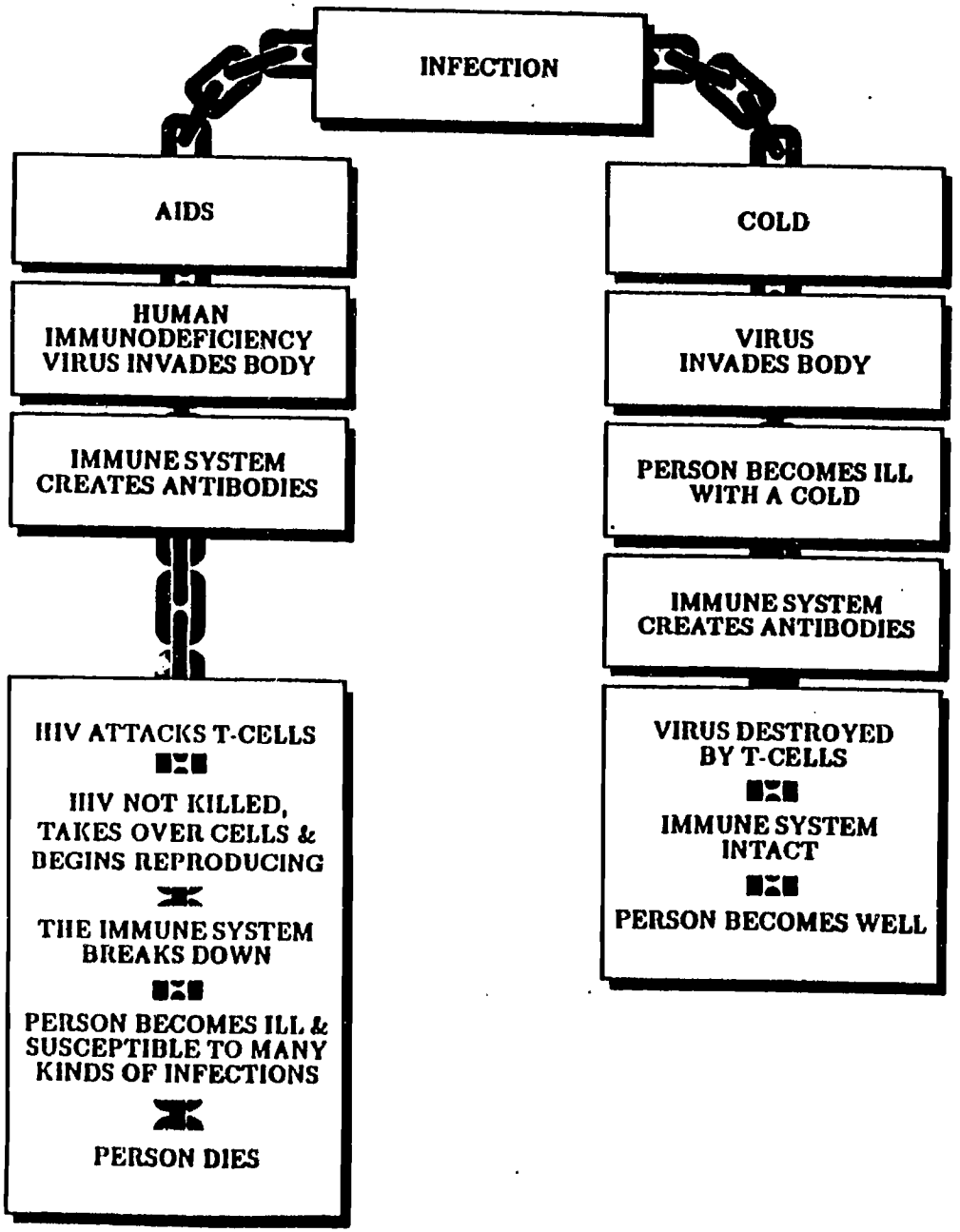
- With the class, the teacher will present the concept of "chain of infection" (Diagram B).
- With the class, the teacher will discuss how the varicella virus can be transmitted from one person to another. Teacher will build a "chain of infection" for the varicella virus (chicken pox), discussing each point (Diagram C.).
- With the class, the teacher will build a "chain of infection" for HIV, discussing each point (Diagram D.).
- Using the "chain of infection" for varicella virus (chicken pox), the teacher will discuss how to break the "chain of infection" for chicken pox (Diagram E.).
- Using the "chain of infection" for HIV, the teacher will discuss how to break the "chain of infection" for AIDS (Diagram F.).

Integrating Information

- Students will differentiate between transmission of varicella virus and HIV.
- Students will identify the ways that HIV can be transmitted:
  - Sexual intercourse with infected partners
  - Sharing needles and other paraphernalia with infected partners
  - Infected mother to baby
  - Transfusion of infected blood or blood products.
- Students will identify the ways that HIV *cannot* be transmitted:
  - Casual contact – touching someone with AIDS, taking care of someone with AIDS, swimming pools, sneezing, coughing, toilets, mosquitoes, etc.
- Students will identify the ways to break the "chain of infection" for the varicella virus (chicken pox):
  - Hand washing
  - Isolating infected person
  - Avoiding contaminated clothing
  - Avoiding contact with skin
  - Immunization (now being tested).
- Students will identify the ways to break the "chain of infection" for AIDS:
  - Abstaining from sexual intercourse
  - Abstaining from illegal drug use
  - Not exchanging infected blood, infected blood products, or body fluids (semen, vaginal secretions) with another person.
  - Using a latex condom with spermicides when engaging in sexual intercourse.

Diagram A

THE IMMUNE SYSTEM



CHAIN OF INFECTION

Diagram B

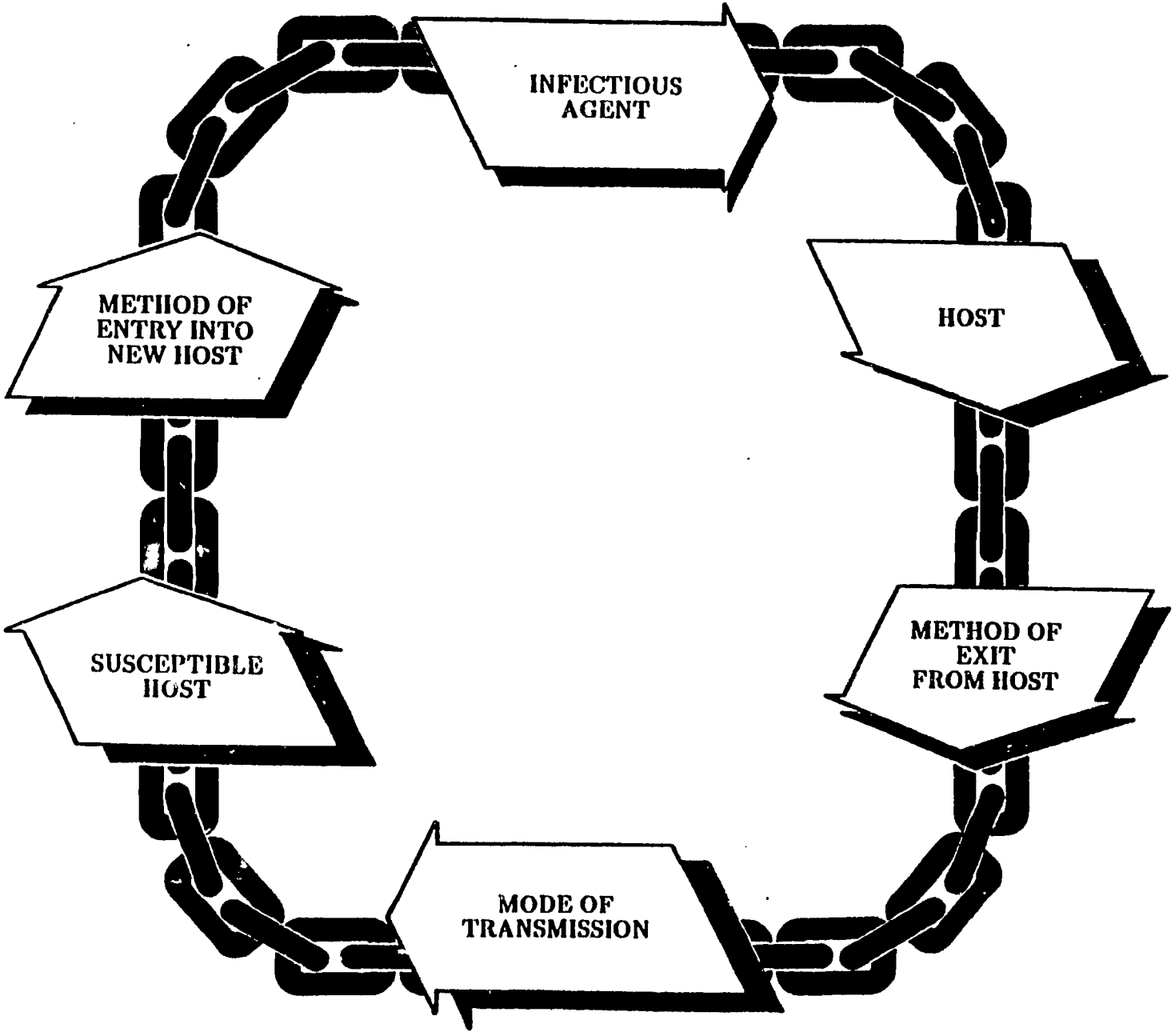
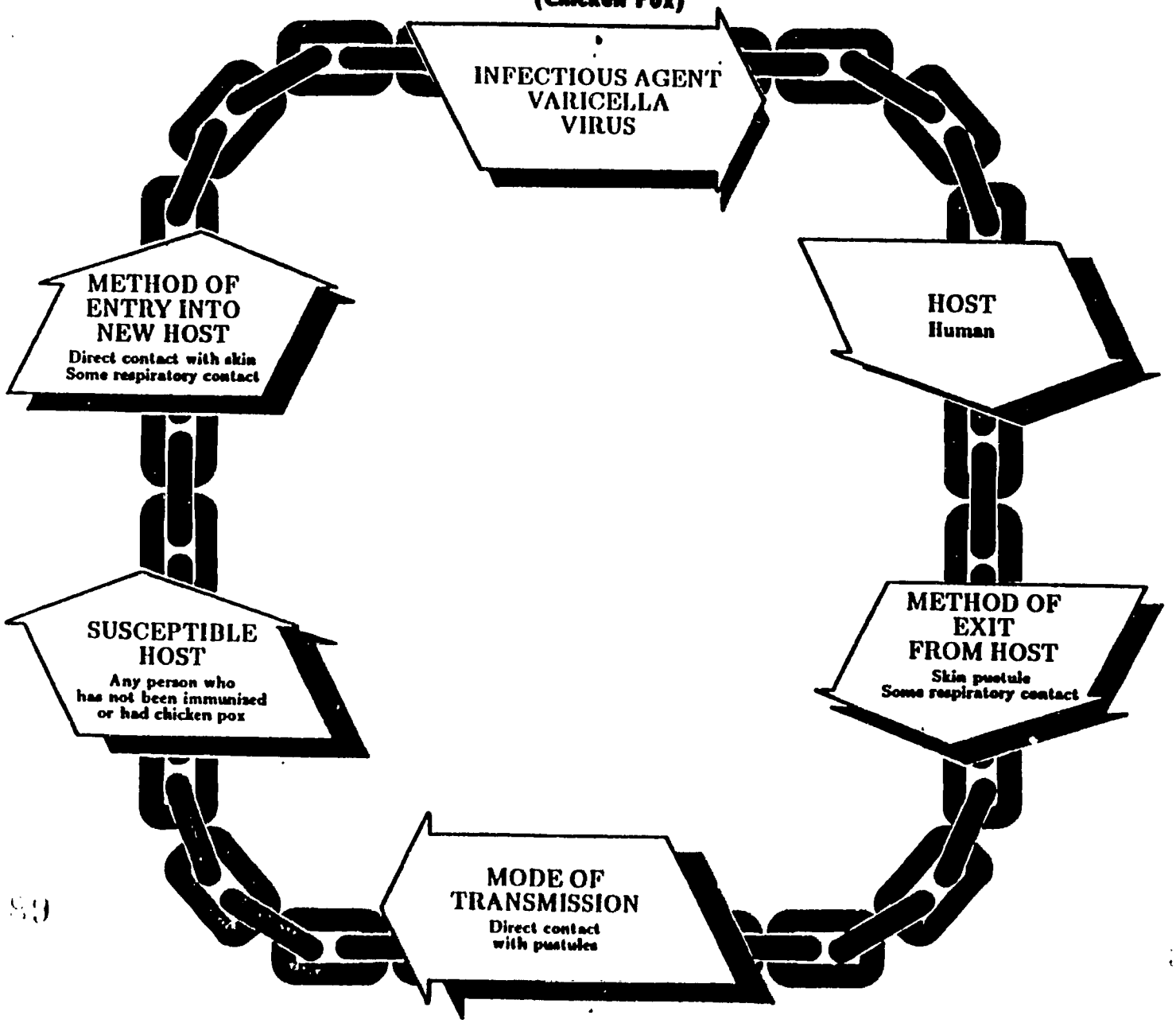


Diagram C

CHAIN OF INFECTION

FOR VARICELLA VIRUS (Chicken Pox)



CHAIN OF INFECTION

FOR HUMAN IMMUNODEFICIENCY VIRUS (HIV)

Diagram D

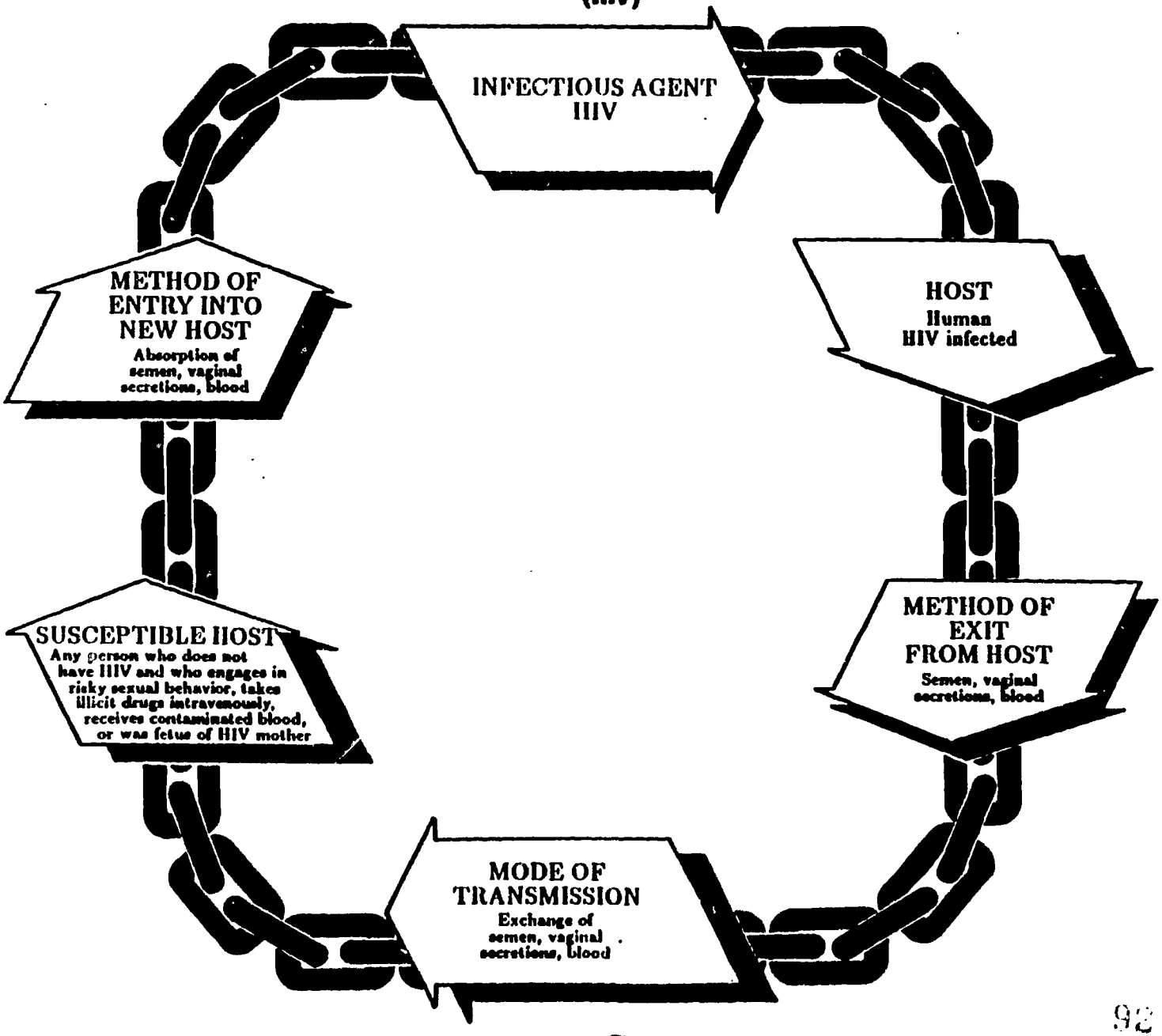
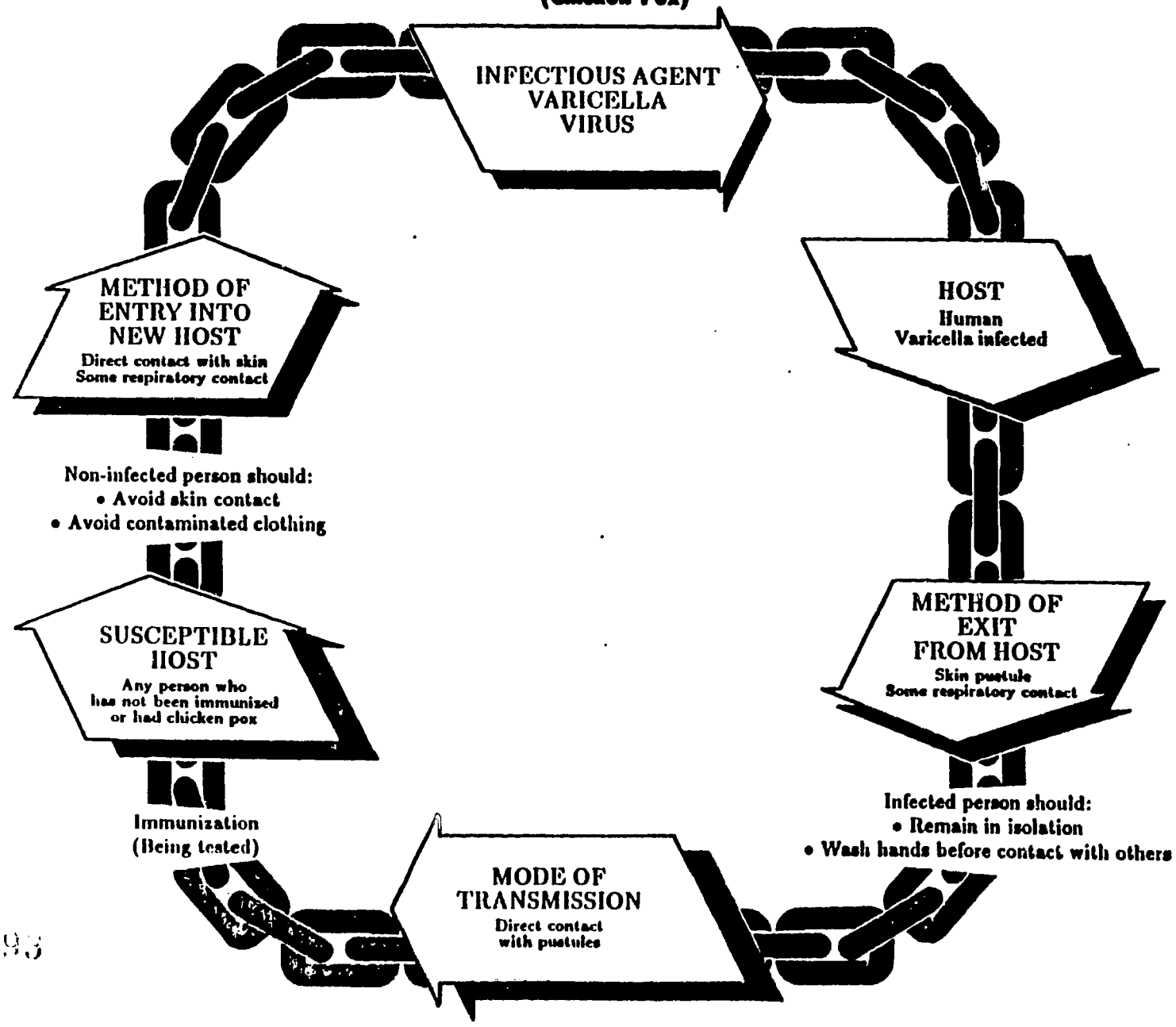
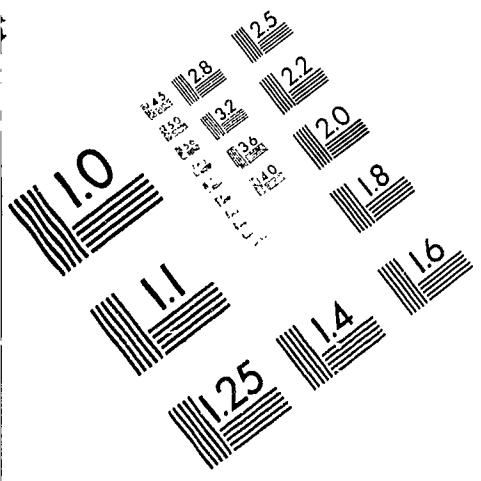


Diagram E

BREAKING THE CHAIN OF INFECTION

FOR VARICELLA VIRUS
(Chicken Pox)





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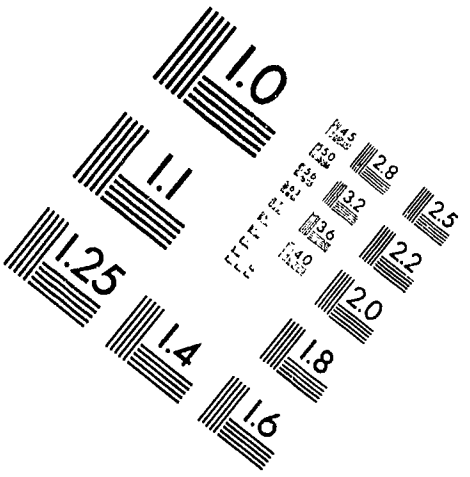

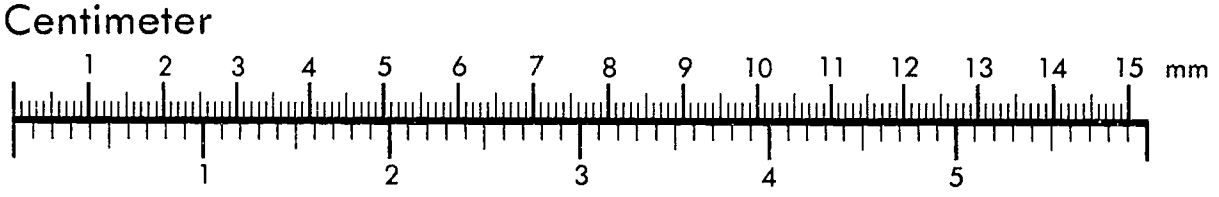

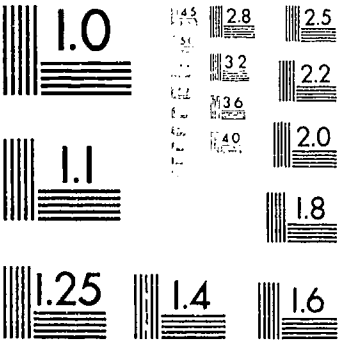

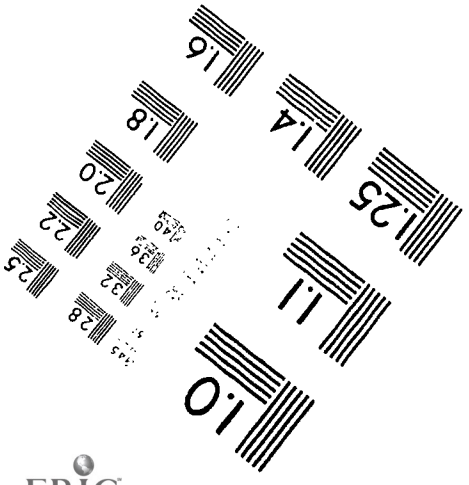

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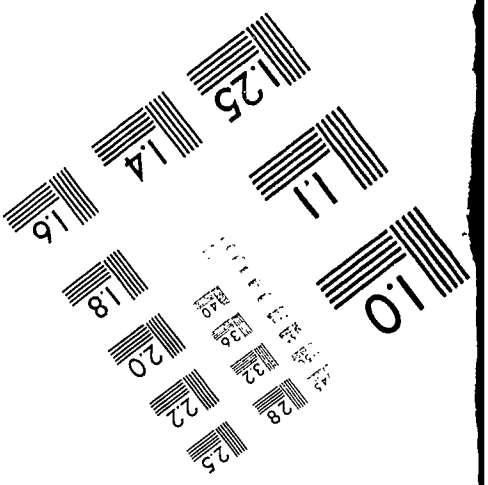
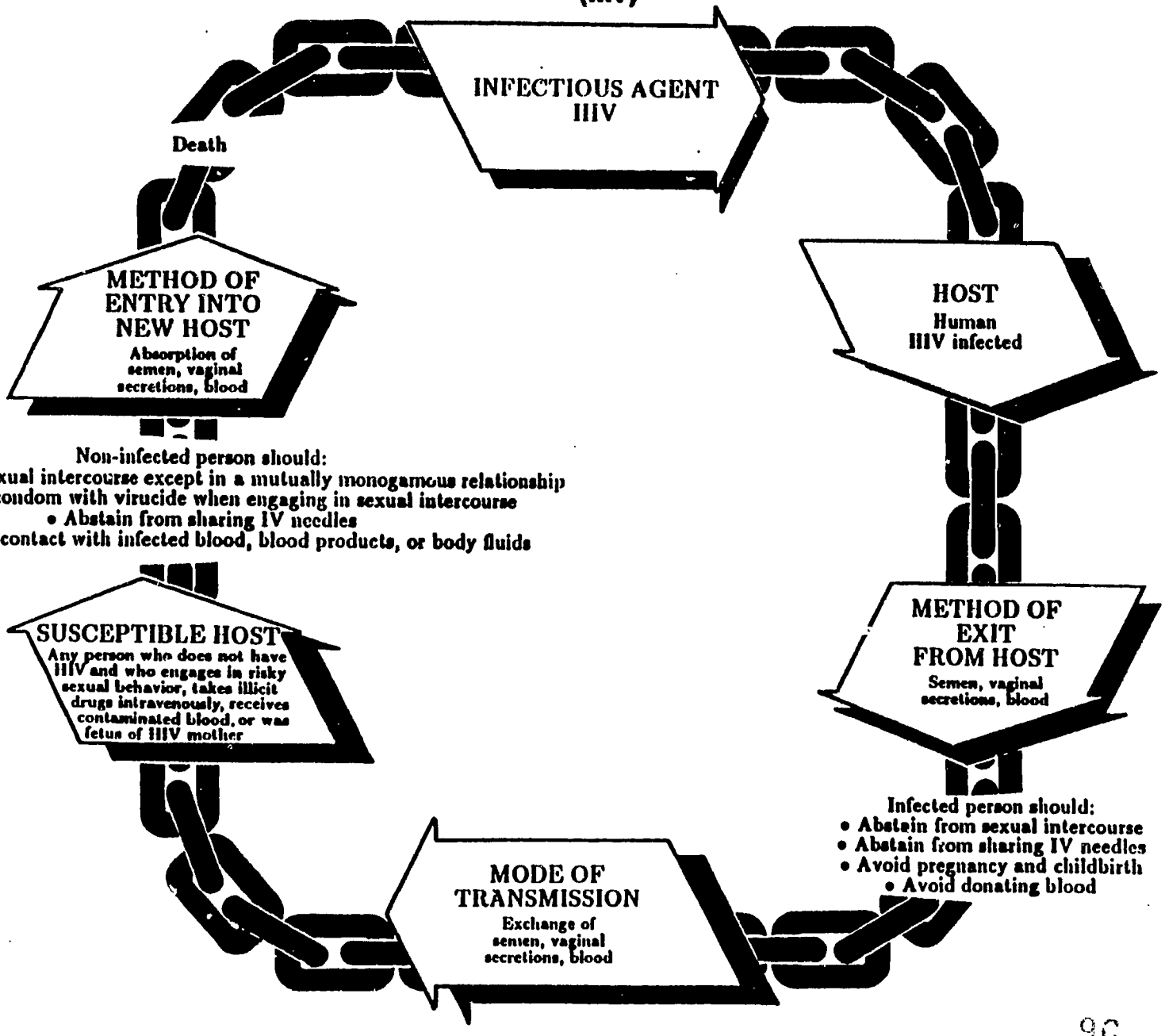


BREAKING THE CHAIN OF INFECTION

FOR HUMAN IMMUNODEFICIENCY VIRUS (HIV)

Diagram F



Non-infected person should:

- Abstain from sexual intercourse except in a mutually monogamous relationship
- Use latex condom with virucide when engaging in sexual intercourse
- Abstain from sharing IV needles
- Avoid other contact with infected blood, blood products, or body fluids

Infected person should:

- Abstain from sexual intercourse
- Abstain from sharing IV needles
- Avoid pregnancy and childbirth
- Avoid donating blood

EIGHTH GRADE

GOAL II: Identify the methods of preventing, treating, and controlling diseases.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will: 1. Analyze risk behaviors and relate them to the chain of infection. 2. Predict ways the AIDS chain of infection can be broken.	1. Review sample lesson plan.	

EIGHTH GRADE

GOAL III: Evaluate the effects of disease on individuals, families, communities, and societies.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will:		
1. Analyze public reaction to persons with AIDS and identify reasonable and unreasonable reactions.	1. Using sample lecture, teacher will prepare an appropriate lesson. (Teacher Information pp. 200-203)	"Children with AIDS - The Youngest Victims," Good Housekeeping, August 1988, pp. 106, 107, 149-155.
2. Examine the consequences of choosing unhealthy behaviors on the individual, family, and community.		Marcia Quackenbush and Pamela Sargent, Teaching AIDS - A Resource Guide on Acquired Immune Deficiency Syndrome, Network Publications, Santa Cruz, 1988.

SAMPLE LECTURE

The acronym AIDS stands for Acquired Immune Deficiency Syndrome. AIDS is a disease that destroys a part of the body's immune system. A person with AIDS, therefore, is susceptible to a variety of uncommon, life-threatening diseases not normally found in healthy people. AIDS is a very serious disease.

Most people believe that AIDS is a gay man's disease. Although this is true, other people can get AIDS too. Heterosexuals, women, teenagers, babies and IV drug users have been infected with AIDS. Currently, in the United States, AIDS is most often found in homosexual and bisexual men. However, more heterosexuals are becoming infected. In some countries, such as several African nations, almost all the AIDS cases are among heterosexuals.

AIDS is caused by a virus. Anyone testing positive for that virus can become ill. The virus is indiscriminate. It infects young and old, men and women, homosexuals and heterosexuals and people of all races.

The AIDS virus is similar to a number of other viruses in that it can cause many different types of symptoms.

1. Some people testing positive to the HIV look and feel very healthy. But these same people are capable of passing the virus on to others. They are called "asymptomatic carriers" because they carry the virus, but display no symptoms.

2. Still other people develop a variety of symptoms related to AIDS, but do not come down with any of the diseases that scientists use to diagnose AIDS. They have ARC (AIDS related complex). These people may be relatively healthy or gravely ill and some may die without being diagnosed as having AIDS.

3. Finally, some people so infected develop a full-blown case of AIDS, the most serious form of the disease. Over 50% of the people in this situation have died. Very few survive beyond five years.

Since asymptomatic carriers often feel healthy, they are not always aware of being infectious. Because of this, AIDS has been difficult to control. The AIDS virus may have an incubation period of from a few weeks to eight years or more. Therefore, it may be a lengthy period of time between when a person becomes infected and when that person first shows symptoms of AIDS.

Fortunately, AIDS is not easy to get. For instance, you cannot get AIDS by touching or being near to someone, by hugging someone or sharing their food and drinking glasses. You cannot get AIDS from swimming pools, water fountains, toilet seats, door knobs or telephones. You cannot get AIDS if someone coughs or sneezes on you. And you cannot get AIDS by donating blood.

You can get AIDS by having very intimate, direct contact with the blood, urine, feces, semen or vaginal secretions of a person infected with AIDS.

Some ways this can happen are:

1. The AIDS virus can pass between two people engaging in oral, anal or vaginal intercourse.

2. The virus can enter the blood stream directly when IV drug users share unsterilized needles or when people share needles used for tatooing and ear-piercing.

3. A few people became infected with AIDS from blood transfusions. However, all blood in the United States is now tested and specialized blood products containing blood clotting factors needed by hemophiliacs are routinely pasteurized to kill the AIDS virus. So the nation's blood supply is considered safe now.

4. Pregnant women infected with AIDS can pass the virus to their babies in the womb. This is because mother and baby share blood systems. Such babies often die before the age of two.

There are no known cases of AIDS being transmitted through other body fluids such as saliva, sweat or tears.

Since the AIDS virus is not transmitted by casual contact and is difficult to get, people developing certain healthy habits can assure themselves of being risk-free.

1. They can carefully consider whether or not they want to have sex with someone else. Abstinence is 100% effective in preventing the sexual transmission of the AIDS virus.

   If a person does decide to have sex, use a condom to prevent body fluieds from entering your body during anal, oral or vaginal sex. The proper use of condoms, or rubbers, are usually (but not considered 100%) safe.

2. Never share needles.

Because asymptomatic carriers often show no signs of being infected, it is wise to follow these guidelines at all times and never take risks.

We know that some viruses and bacteria are passed from one person to another through coughing and sharing glasses, etc. So it may be difficult for some people to understand that the AIDS virus is, indeed, hard to "catch". Perhaps this is because AIDS is so deadly a disease. When they think of AIDS, many people think of death and wasting away. This is scary. Some people believe that getting AIDS means you are gay or will thought of as being gay. Others

cannot separate the idea of AIDS from homosexuality and IV drug users and they are afraid of these people. Some low-risk people may even change their sexual habits because of extreme fear of getting AIDS.

The reactions to people with AIDS or with family members and friends with AIDS varies tremendously. Some reactions may be described as hysterical or unreasonable, at least, by some people. Other people would consider the same reactions as being consistent with the seriousness of the disease AIDS. For example, consider the following situation:

In Atascadero, California, Ryan Thomas was born premature. He receiv ed blood transfusions and, three years later, was identif as infected with HIV. When Ryan was five, his parents tried to enroll him in Kindergarten. But the school superintendent refused to let him attend school. School officials held several public meetings to discuss the situation. Finally, after a nine-month court battle, Ryan was allowed to go to school. He had to be accompanied by armed police because of bomb threats and threats on his life.

1. Was this a reasonable reaction? Why

2. Were the other children at risk because of Ryan?

After Ryan's situation was publicized over TV and in the newspapers, Robin (Ryan's father) lost his job. He was asked not to return to work and the reason listed on the termination papers was that Robin had quit his job. Because of this, Robin was unable to collect unemployment and he was also unable to another job. No one would hire him. He was told that he would have to move out of the county if he ever expected to be hired again. It was several months before they could begin to get welfare checks and the family had to rely on handouts for food in the meantime.

1. Should Robin have been able to return to work?

2. Were the other employees at risk of getting AIDS from Robin?

When Ryan's illness became public knowledge, the Thomas' also lost every friend, including those they had known since childhood. Neighbors refused to talk to them. Others shouted insults at the family. When the family entered a restaurant, people got up and left. When they walked down the street, people would cross the street and walk on the other side.

1. Were such behaviors hysterical or reasonable?

2. Were any of the nei bors or towns people at risk?

3. Why do you suppose all of these people reacted to Ryan and his parents in this way? Could any of the answers be related to:

A. Fear of the disease AIDS or of people different from themselves.

B. Lack of knowledge of what AIDS is and how it is transmitted.

C. Some of the neighbors, etc., were pessimists, optimists, complainers, problem-solvers and other particular types of personalities

D. Some people are opposed to homosexuals, IV drug users, etc. and do not want to help or become involved with people with AIDS.

E. Other

These kinds of reactions and attitudes concerning the disease AIDS and people with AIDS can produce other kinds of results such as 1. unwillingness to support research on the disease, 2. unwillingness to support prevention of or education about AIDS (education is the only known way to stem the epidemic at the present time), and discrimination and mistreatment of the victims of the deadly disease AIDS

EIGHTH GRADE

GOAL IV: Recognize the roles and responsibilities of local, state, and national health professionals, organizations, and agencies.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will: 1. Discuss the responsibility of the media in giving accurate information about AIDS.	1. Students find a newspaper or magazine article that deals with AIDS and answer questions similar to the following: -Who are the people mentioned in the article? -How are these people affected by the AIDS crisis? -How are these people reacting to the AIDS crisis? -Can you tell whether the reporter has an opinion about these people? -How can you tell?	

Grades 9 - 12

GOAL I: Recognize the causes and characteristics of communicable and noncommunicable diseases.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will:		
1. Identify and list the causes, routes of transmission, and symptoms of AIDS and other STDs.	1.1 Abbott Laboratories materials (pp. 207-226)	
2. Describe the levels of HIV infection.	1.2 AIDS myth/fact sheet (pp. 227-229)	
3. Explain how a healthy immune system functions and what happens when the immune system is invaded by HIV.	1.3 "AIDS Concentration Game" (pp. 230-234)	
4. Apply information concerning AIDS to the communicable disease chain.	1.4 "STD Shuffle" (pp. 235-247)	
	2.1 Levels of infection (pp. 248-249)	
	3.1 Immune system diagram (p. 250)	
	3.2 Immune system activity sheets (pp. 251-258)	
	4.1 "Communicable Disease Chain" (pp. 259-262)	
	4.2 "Communicable Disease Puzzle" (pp. 263-268)	

TEACHER INFORMATION

INTRODUCTION

Every year five to ten million Americans under the age of 25 get sexually transmitted diseases. Sexually active teens run great health risks when they are exposed to STDs (sexually transmitted diseases) without information about how to prevent and treat them.

Sexually transmitted diseases, formerly called venereal diseases (VD), are perhaps more subject to myth and misinformation than other diseases, because sexual and emotional issues obscure understanding of the diseases themselves. For that reason, this educational kit incorporates detailed information on disease symptoms and prevention in addition to material about sexual responsibility, especially how to talk about STDs with partners. There will also be class discussion on some common emotional reactions to STDs—fear, guilt, and embarrassment.

The kit contains six activities on reproducible spirit masters. Each spirit master will provide up to 200 excellent copies. The masters may also be photocopied. Sheets produced from the spirit masters can be taken home for future reference.

There are four transparencies included in this kit. They are designed to be used in conjunction with specific activities and will be explained in the detailed lesson plans that follow.

The six activities are meant to be used in sequence. We begin with a study of physical manifestations of STDs, follow with risk factors and emotional complications, and conclude with making decisions. The activities are:

- Introduction to STDs
- Eight STDs (chart)
- Understanding Your Risk
- Seeking Help
- Informing Your Partners
- Making Decisions

PRINCIPLES TO KEEP IN MIND WHEN IMPLEMENTING STD EDUCATION

Complex feelings and beliefs are frequently associated with this topic by students, parents, teachers, administrators, and other members of the community. You, as the teacher, must judge what kind of presentation will work best with your students.

Here are some guidelines that have been useful to other teachers who have implemented an educational program of this type.

a. The content of STD education will, ideally, correspond to students' needs and levels of maturity.

b. Effective presentation of the material *must be unbiased* by personal attitudes.

c. The teacher should model the use of correct terminology from the beginning of the program, defining and translating slang used by students when necessary.

d. STD education can be introduced between grades 7 and 12, and before grade 7 if there is a clear need. In grades 7-9, the teacher must gauge the maturity of the students and their ability to respond to the information presented.

e. It is best to provide STD education in co-educational settings. This encourages both sexes to practice communication about health and sexual issues.

f. Students should be given the opportunity to ask questions anonymously after each lesson.

g. Information on STDs is most often given in health courses as part of a discussion of communicable diseases. But STD education could also be implemented in science, social studies, or home economics classes.

h. Involve parents and school officials in planning STD education. If STD education is not already offered in the school, parent and administrative involvement is essential in securing strong support for addressing this problem.

EDUCATIONAL OBJECTIVES

Any educational program seeks to influence students' behaviors and attitudes. This program has been designed to shift the response of students toward protecting and maintaining their own health and the health of others. At the completion of this course, students will be able to:

a. Name at least five of the most common STDs and their major health consequences

b. Name five general symptoms that may indicate an STD.

c. Name three methods to reduce the chances for getting an STD.

d. Demonstrate that they can find local or national STD health resources.

e. State what steps they should take if an STD is suspected.

f. Make informed health decisions in responding to STD-related problems.

g. Explain the reasons why partners should be informed of exposure to an STD and describe the possible emotional reactions when they are told.

SUGGESTED LESSON PLANS

Lesson 1: Introduction to STDs

Objectives:
Name five common STDs and their consequences.
Name five general symptoms that may indicate an STD.

Materials:
Transparencies 1 and 2
Activities 1-A and 1-B

Many sexually active teens are unaware of the risk of STDs and measures that can be taken to reduce or eliminate that risk. As an introduction to the idea of responsibility for maintaining one's own health, a risk assessment activity on Transparency 1 begins this lesson. This should be shown to students before any other information is given. This activity functions as a pretest so that students can assess their own risk factors.

Introduce Transparency 1 by saying: "The purpose of this activity is to give you an estimate of your chances of getting a sexually transmitted disease and suffering its consequences. Each statement represents an attitude or practice that may increase or reduce the risk of getting an STD. Add and subtract the numbers according to the directions. At the end, the number you get represents your risk factor. Make a note of this number for later use."

This risk factor number will be used in Activity 2 as students try to think of ways to lower their risks.

Next, distribute Activities 1-A and 1-B. These activities will familiarize students with eight common STDs and their symptoms. Students should read the introductory material on Activity 1-A and briefly scan Activity 1-B. Explain that Activity 1-B is to be used as a take-home reference when this unit is completed.

Point out that while there are many specific symptoms and diseases, sexually active individuals can be alerted to health problems by understanding five general symptoms. Review Transparency 2 with the students and encourage them to make notes of the symptoms on the back of Activity 1-B. Write the following boldfaced points on the board and review them with students.

a. No noticeable symptoms
STDs frequently have no symptoms. Even males may not show any signs or symptoms.

b. Request tests for STDs
STD tests are not performed on a routine basis except in STD clinics. If you know you have been exposed to an STD, you should tell your doctor.

c. More than one STD at once
For instance, it is possible to have gonorrhea and chlamydia at the same time.

d. Don't treat yourself
The treatment for each STD is different. Leftover medicine, home remedies, or pills available from a friend are very unlikely to cure an STD. Failure to go to a clinic or your doctor is a gamble.

e. Take all medication
Often symptoms disappear before the germs are completely killed. Unless you take all the prescribed medication, your STD is not likely to be cured.

After reviewing this material, students can match up the columns in Activity 1-A. Tell your students that some false answers are given in Column B. The correct answers are:

1. **guilt and fear**
   new forms of birth control
   lack of symptoms
2. **genital discharge**
   itching
   skin changes
   abdominal pain
   painful urination
3. **health risks to newborns**
   pelvic infections
   sterility
4. **gonorrhea**
   AIDS
   trichomoniasis
   herpes
   chlamydia
5. **sexual contact**
   birth from infected mother
   sharing drug needles

Lesson 2: Understanding and Reducing Risk

Objectives:
Name three ways to reduce the chances of getting an STD

Materials:
Activity 2
Transparencies 3 and 4

You may want to begin this lesson by asking questions for discussion to remind students of some points from Lesson 1. For example:

1. If STDs were transmitted by flies or sneezing, would society have a different view of them?
2. Which group or groups may incur the greatest number of health problems from untreated STDs—women, men or newborns?

After discussion present Activity 2.

This activity makes recommendations for ways to reduce the risk of acquiring an STD.

After reading these suggestions, students can view Transparency 3, which illustrates that adding sexual partners increases the risk of getting an STD. The teacher can explain that abstinence means having no sexual partners. Monogamy means that two people have a sexual relationship only with each other. This transparency illustrates that one person with an STD can infect many others.

Students can then view Transparency 4 and assess ten situations, deciding whether the people described are increasing or decreasing their risk factors. Students should write the numbers 1 through 10 on a piece of paper and write "D" next to the number if the person is decreasing his or her risk or that of his or her partner and "I" if risk is increased.

The correct answers are:

1. D	6. I
2. D	7. D
3. I	8. D
4. D	9. I
5. D	10. D

Finally, students are given the opportunity to write ways in which they might reduce their own risks. You should show Transparency 1 again to remind students of their risk factors. During this exercise it will be important to point out to students that no one else will see their answers. Once again, provide an opportunity for anonymous questions.

Lesson 3. Seeking Help

Objectives:

Demonstrate that students can find local or national health resources.

Material:

Activity 3

Activity 3 will help students familiarize themselves with national and local health resources.

Activity 3 is divided into three parts. The first part is a list of steps that must be taken if a student suspects he or she has been exposed to an STD. Students will then rank traditional sources of help beginning with those that they feel most comfortable talking with to those they feel least comfortable approaching. Their rankings and some of their rationale may then be discussed in class. The purpose of this exercise is to help students begin to formulate an action plan that they could use if ever confronted with the necessity.

In the third segment of this activity students are given a general overview of resources for seeking information and/or help. Students are then asked to pick one question from a list and to discover its answer through a local health resource. Again, the purpose is to help students become familiar with local resources before they find themselves in a situation clouded with fear and pressure.

The answers to these questions and the sources of information used will be of interest to most of your students and may be discussed in class.

You may want to invite a health professional from a local health agency (for example, the county medical society) to speak to your class. The content of such a presentation is likely to lend reality and immediacy to the information and guidance offered by these materials.

Lesson 4: Informing Partners

Objective:

Explain why partners should be told if they have been exposed to an STD.

Material:

Activity 4

Activity 4 leads into discussion of the emotional issues that often accompany an STD diagnosis. Students are asked to speculate concerning some of the feelings people might have about informing a sex partner that he or she has been exposed to a sexually transmitted disease.

There are, of course, no right or wrong answers in this discussion. But students may be helped to understand that people may feel guilty about having transmitted a disease. They may feel angry because they were exposed to a disease, or may fear that their partners will be angry at them. Some may feel shame or embarrassment because they engage in sexual activity. Some are reluctant to inform a partner because they will have to confront issues of infidelity or multiple sexual partners. These are only a few of the possible reasons for hesitating to tell a partner, and students should be encouraged to understand and empathize with those facing such a dilemma.

Activity 4 increases student awareness of why it is important to help partners get treatment in spite of emotional obstacles.

Finally, this activity presents students with a hypothetical situation and asks them to formulate possible approaches to telling partners at risk.

To answer questions 1 and 2, remind students to refer to the chart on Activity 1-B. Question 3 may be answered from the material contained in Activity 4. The answers to question 4 will depend on the individual student. In general, the teacher should help students formulate approaches that are tactful, honest, direct, and non-judgmental.

Lesson 5: Making Decisions

Objective:

To develop the ability to make informed decisions regarding STD-related problems.

Material:

Activity 5

Students are presented with four hypothetical situations and asked to comment on the logic and the decisions reached by the people in each story. The following points should be elicited during class discussion:

Situation 1

Students should recognize that chlamydia frequently has no symptoms, and Greg's partners may not be aware that they have it.

If his partners are not treated, they may spread the disease as well as risk long-term health consequences.

Situation 2

Students should demonstrate awareness that tests for STDs are not a part of standard physical exams and that these tests must be requested by the patient.

If Jackie does have gonorrhea and is not treated, she may reinfect her boyfriend or others. Both run the risk of long-term health consequences.

Situation 3

Students should show understanding that though birth control pills prevent pregnancy, they do not prevent the spread of disease. Students should state that, even if Cynthia does not have symptoms, she could have an STD. Robert is running a greater risk by abandoning his decision to use a condom. He could explain to Cynthia that use of a condom protects her as well as him.

Situation 4

Students should be able to point out that Steve may have herpes, a disease in which the symptoms disappear and recur with varying frequency. Steve makes several mistakes. He will not discuss health concerns with his partner, he waits before seeking treatment, he is not honest with his partner about the possibility of infection, and he mistakes the disappearance of symptoms for a "cure." Steve risks infecting his current and future partners.

CONCLUSION

At the end of this educational program it is important to once again offer students the chance to ask anonymous questions

If you feel that your students would benefit from further information about sexually transmitted diseases, write to:

American Social Health Association
260 Sheridan Avenue
Palo Alto, CA 94306

In your local area, most libraries, clinics, and health departments carry books and brochures that can enhance the information contained in this program

The American Social Health Association is the only national non-profit agency singularly dedicated to the prevention and control of sexually transmitted diseases. ASHA information programs include the Herpes Resource Center and the VD National Hotline. ASHA has long been involved in health education and has conducted numerous professional, public, college and high school education programs.

Abbott Laboratories is a worldwide health-care company devoted to the discovery, development, manufacture, and sale of a broad and diversified line of human health-care products Abbott has developed a line of tests to diagnose sexually transmitted diseases, including chlamydia, gonorrhea, hepatitis, and AIDS Educational pamphlets on these topics can be obtained by writing to "STD Pamphlets," Dept. 383M, Abbott Laboratories, Abbott Park, IL 60064.

Introduction to STDs

Each year 5-10 million Americans under the age of 25 get sexually transmitted diseases (STDs). STDs were once called venereal diseases (VD). The two primary diseases were syphilis and gonorrhea. Today, we know that there are more than 20 STDs.

Many things contribute to the spread of STDs in spite of advances in medical knowledge:

a. Because they are transmitted primarily through sexual contact, these diseases cause some people to experience guilt, fear, and embarrassment when they suspect they have been exposed to an STD. These feelings prevent some from seeking the necessary diagnosis and treatment.

b. In many cases men and women experience no symptoms even if they have an STD. Frequently the symptoms of an STD can disappear with no treatment, *even though the disease has not been cured*. There are tests that make it simple to diagnose almost every STD. However, these tests are not part of a standard physical exam and must be requested by individuals who think they might have an STD. In most cases, there are specific treatments for each STD.

c. Modern methods of birth control (for example, the pill) do not provide the same degree of protection against STDs that older methods do. Older methods of birth control such as condoms, diaphragms, and chemical barriers (creams and foams) often prevent diseases from being transferred from one partner to another.

d. Many people are not knowledgeable about these diseases or what symptoms to look for in themselves and others. The purpose of this course is to increase your awareness and knowledge of STDs so that you can protect yourself and others.

SEXUALLY TRANSMITTED DISEASES

Your teacher will provide further information on STDs and their symptoms. Using all of this information, answer the questions in Column A by choosing the correct words and phrases from the list at the right:

COLUMN A

1. These factors may account for the increase in STDs.

   _____ _____ _____

2. These are the most common symptoms of STDs.

   _____ _____ _____ _____ _____

3. These are some of the long-term dangers if an STD is untreated.

   _____ _____ _____

4. These are some names of STDs.

   _____ _____ _____ _____ _____

5. This is how STDs are transmitted.

   _____ _____ _____

COLUMN B

1. guilt and fear
2. genital discharge
3. itching
4. gonorrhea
5. discovery of penicillin
6. AIDS
7. new forms of birth control
8. nosebleed
9. lack of symptoms
10. trichomoniasis
11. sharing drug needles
12. skin changes
13. damage to newborns
14. toilet seats
15. herpes
16. chlamydia
17. pelvic infections
18. sexual contact
19. abdominal pain
20. birth from infected mother
21. painful urination
22. trichinosis
23. sterility

DISEASE	FEMALE SYMPTOMS	MALE SYMPTOMS	POSSIBLE PROBLEMS	OTHER THOUGHTS	NUMBER AFFECTED EACH YEAR
Gonorrhea	Women may not notice symptoms. Or, may have pus-like vaginal discharge, lower abdominal pain, painful urination..	Pus discharge from penis. Pain when urinating.	Sterility, repeated pelvic infections in women, damage to newborns.	Curable with proper treatment.	2 million
Chlamydia	No symptoms for 60-80% of women. Some may have vaginal discharge, pain when urinating, dull pelvic pain or bleeding between menstrual periods.	No symptoms for 20-40% of men. Others may have painful urination or watery discharge from penis.	Infertility in men and women, eye and lung infections in newborns.	Once identified, chlamydia can be cured painlessly with antibiotics.	2-3 million
Genital Herpes	One or more blister-like sores on, in or around the genitals. Sore may look like a rash or cut and is not always painful. Symptoms go away.		Can cause severe damage to infants of mothers with active infections at the time of delivery.	Caused by virus. Can be treated, but not cured. Repeated flareups may occur after the first infection.	500,000 new cases
Syphilis	A sore, usually painless. Later rash may develop on other parts of the body (usually hands and feet). There may also be sore throat, fever, swollen glands. Symptoms disappear.		Heart, spine and brain may be affected. Severe threat to developing fetus.	Detected by simple blood test. Cured with antibiotics.	90,000
Hepatitis B	Symptoms vary a great deal. Some people have no symptoms. Others experience loss of appetite, fever, tiredness, pain in liver area, jaundice (yellowing of the skin).		Major cause of liver cancer. May cause death. Can be transmitted to newborns by mother.	A vaccine is available to prevent Hepatitis B.	200,000
AIDS	For both sexes, early symptoms may be recurring fever, night sweating, shortness of breath, dry coughs, constant tiredness, diarrhea, rapid weight loss, swollen glands or increase in severity or number of illnesses.		No cure has yet been found. AIDS has been fatal in more than 50% of the cases.	AIDS is caused by a virus that can be transferred during sexual contact or when sharing needles during IV drug use.	The number of reported cases has roughly doubled every year. The two groups most severely affected have been gay and bisexual men and IV drug users although anyone can get AIDS.
Genital Warts	Warts found on or around genitals or rectum. They must be treated by a doctor.		Can grow large and obstruct penis, vagina or anus.	Genital warts have been strongly linked to the development of genital cancers.	1-2 million
Trichomoniasis	Vaginal itching, often severe. Heavy vaginal discharge, often green/yellow, with strong smell.	Frequently none. Occasionally a discharge from the penis.	Partners may frequently pass this disease back and forth leading to repeat infections.	Curable but both partners must be treated.	3 million

As with other diseases, it is important for you to assess your risk of getting an STD. You can then decide what steps you can take to minimize the risks to your health. Here is a list of things that you can do to reduce the possibility of getting an STD.

a. **Practice abstinence**—not having sex is, obviously, a foolproof way to avoid sexually transmitted diseases.

b. **Practice monogamy**—having sex with only one partner who has sex only with you greatly reduces your risk.

c. **Practice prevention**—use a condom (also known as a "rubber" or "prophylactic"). Properly used, a condom will prevent many STDs. Diaphragms, foams, jellies, and creams may add extra protection.

d. **Reduce your number of partners**—the more partners you have, the more you increase your chance of getting an STD.

e. **Behave responsibly with partners**—discuss health concerns with partners and know STD symptoms.

f. **Wash and urinate after sexual contact**—(not guaranteed, but soap and water may help wash away germs, especially for men).

g. **Request tests for STDs**—pregnant women, especially, should do this to protect fetus and newborn.

The following will not be discussed in class. This is for your information only.

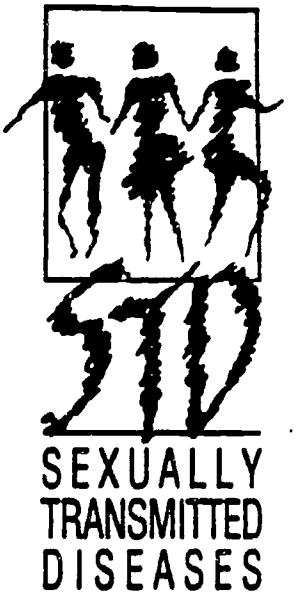
1. My personal risk factor is ____.

2. If my risk factor is over 5, here are some ways I can bring it down.

1. _____
_____

2. _____
_____

3. _____
_____



In spite of the information people have and the actions they might take to decrease their risk, some people will still get an STD at some point in their lives. It is important to remember that most of the diseases that we have discussed can be cured. For many, if treated and cured early, there will be no long-range health effects.

If you suspect you have an STD:

a. Stop having sex.

b. Call for an appointment with an STD clinic or health professional. You will be given tests that will determine if an STD is present. Most STDs are diagnosed through either a blood test or a culture test. A blood test requires a small sample of blood from the patient's arm. In a culture test, a sample of fluid is taken from the patient's genitals with a cotton swab. Proper treatment will then be prescribed.

c. Notify your recent sex partner(s) of a positive diagnosis and help them get treatment.

Seeking Help

Many teenagers feel reluctant to seek help if they suspect they might have an STD. At the right is a list of places and people that can be consulted for support and assistance.

Rate these in order, starting with where you would feel most comfortable to where you would feel least comfortable discussing this problem. Write down a brief reason for your feelings about each possibility. Use the back of this page.

Father
Mother
Family doctor
Public health clinic
Anonymous hot line
Friends
Guidance counselor/school nurse/teacher
Clergy
Sister/brother
Boyfriend/girlfriend
A doctor you don't know.

Discuss this list and your ratings in class.

The more places and people you can approach for support and the more information that you can get, the more quickly you can solve whatever problem faces you.

Below are some places that may be available for testing, treatment, and information in your community.

Family doctor
Family planning clinics
Hospitals
Health department (May be listed in the phone book under health services or public health. It is usually listed with county or city government offices.)
Local telephone crisis hotline
VD National Hotline (1-800-227-8922; in California, 1-800-982-5883)

To help you identify your local resources, and familiarize yourself with their services, pick a question from the list below and get the answer from a local agency.

1. Do any of the STD clinics in your community offer free services?
2. Which STD health resource is closest to your school?
3. At what age can minors be diagnosed and treated for an STD without their parents' permission?
4. Do any of the STD clinics have evening or weekend hours?
5. Can you get brochures or pamphlets explaining STDs from any of the local resources?

In your next class, discuss what you have learned.

After taking the first step of seeking treatment, those who have STDs must take another important step—notifying their sex partners and helping them get treatment.

This step is important in order to:

- stop illness in your partner and prevent serious health consequences.
- protect yourself from reinfection. Many times partners will pass an STD back and forth unless both are treated at the same time.
- stop the possible spread of STDs to others.

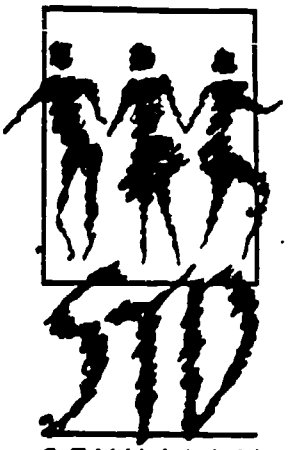
Question for Discussion

Can you think of things that make it difficult to tell sex partners about a diagnosis of an STD?

Informing Your Partners

While informing partners isn't always easy, here are some recommendations for handling what can be a difficult or embarrassing situation.

a. The ideal solution is for partners to go to the clinic or doctor together. They can provide support for each other, and if both are treated at the same time, there will be no reinfection.
b. If individuals seek treatment on their own, health personnel at the clinic will help them find ways to talk to partners in person or over the phone. All clinics offer confidential and private services. Most clinics offer the services of specialists who can talk to partners if patients do not feel comfortable doing so. Finally, it is possible to write a letter to a partner. But this should be done only if you can insure that no one else will read it and that there will be no delay in delivery of the letter.



Read the situation below. In class, discuss the questions that you will find at the end of the story.

Carla notices an unusual vaginal discharge and makes an appointment at her county health clinic. She is diagnosed as having gonorrhea. At the clinic she has a choice of giving the names of her recent sex partners to the doctor, or calling them herself. Carla asks the clinic to call all but one of her partners. She is still seeing Jack and wants to talk with him herself. She is very nervous about doing this. Jack has had sex only with her. If he does have gonorrhea, he got it from her.

Questions

1. Carla went to the doctor because she noticed a vaginal discharge. What other symptoms might she have had?
2. What symptoms of gonorrhea might Carla have noticed in her male sex partners?
3. What choices does Carla have in the way she tells Jack that he may have an STD?
4. What approach for telling Jack would you recommend—should Carla talk to him in person, call him, or send him a letter? Depending on which approach you choose, what exactly would you say to Jack?

As with other issues concerning health, decisions made now can have long-term effects. The key to sexual decision-making is responsible behavior—accepting responsibility for your own health, and behaving responsibly toward sexual partners.

Read the following hypothetical situations and answer the questions that follow:

SITUATION 1

Greg has had four partners in six months. Three weeks after his last sexual experience he noticed a watery discharge from his penis. He is tested at a clinic and discovers that he has chlamydia. He begins treatment and is told to abstain from sex until treatment is over and to inform his partners that they will need treatment, too. Greg decides he will abstain from sex. He is no longer seeing any of his four partners and decides not to notify them, thinking that if they have chlamydia they will notice the symptoms themselves.

a. Do you think Greg is right in his decisions 1) to abstain from sex and 2) not to inform his partners?

b. Give your reasons for agreeing or disagreeing with both of his decisions.

c. What might happen to Greg's former partners if they don't seek help?

SITUATION 2

Jackie is told by her boyfriend that he has gonorrhea and that she may have it, too. He urges her to go to the clinic that helped him. Jackie decides that she is too embarrassed to go to a clinic. She makes an appointment with her family doctor for a regular check up but does not tell her that she has been exposed to gonorrhea. Instead, she tells herself that the doctor will know if there is anything wrong with her.

a. Is Jackie correct in her thinking? Why or why not?

b. What does Jackie need to do to be more responsible for her own health?

c. If Jackie does have gonorrhea and does not seek treatment, what might happen to her? to her boyfriend?

SITUATION 3

Robert meets Cynthia at a party and is very attracted to her. When he takes her home they decide to have sex. He has learned about STDs in health class and has decided to use condoms to protect himself and his partners. However, Cynthia says she is taking birth control pills and knows she doesn't have any disease. She says using a condom is too much of a hassle. Robert decides not to use one.

a. Do you agree or disagree with Cynthia's reasoning?

b. Why do you think Robert behaved as he did?

c. Could Robert have made a different decision? If so, how could he have handled it with Cynthia?

SITUATION 4

Steve noticed a cluster of watery and painful blisters on his penis. He has had one partner for the past three months but feels shy about discussing health concerns with her. He decides to wait a week before seeking medical treatment, thinking "this is probably nothing serious." He makes up excuses for not having sex with his partner for a week and then, to his relief, the blisters begin to disappear. Steve decides he is cured and that he will have sex with his partner when the sores are no longer painful.

a. What disease might Steve have?

b. What health mistakes does Steve make?

c. If Steve does have an STD what risk does he run by not seeking treatment? What is the risk to his partner?

What Is Your Risk?

1 Begin with zero.

2. If your age is 11-15, add 5 points.

3. If your age is 16-20, add 7 points.

4. Add three points for each sex partner during the last year

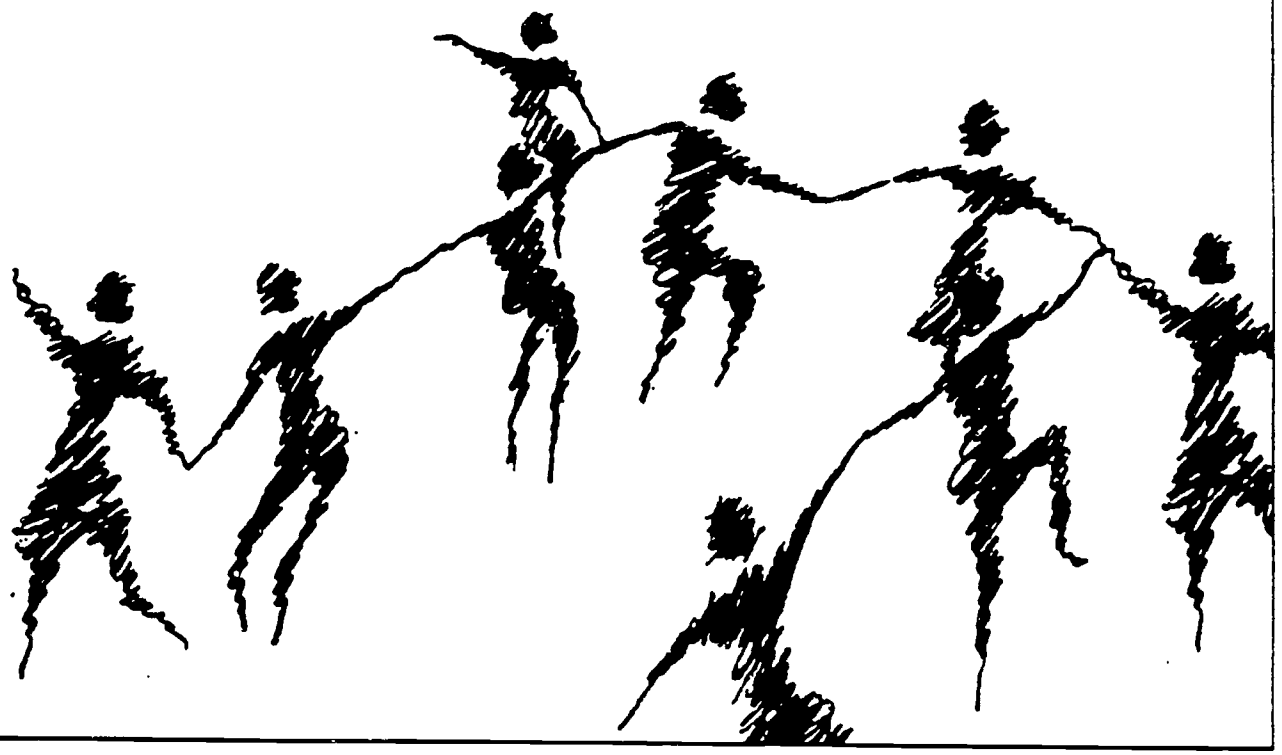
5 Subtract one point for each partner you knew for at least six months before having sex

6. Subtract one point for each partner with whom you discussed STDs and risk factors

7. Subtract three points if you do or would use a condom with every sexual contact, two points if you would use one at least half of the time, or one point if you would only use one sometimes.

8. Subtract two points if you understand STD symptoms and would seek help immediately after identifying one.

Low Risk	**0-5**
Moderate Risk	**6-10**
Serious Risk	**11 +**



Important STD Symptoms

The following may or may not be STD symptoms But if you have these symptoms they should be checked out.

1. Genital discharge

TYPES: white, yellow/green, clear and watery, thick, containing pus, foul or bad odor

2. Abdominal Pain –

most common in women

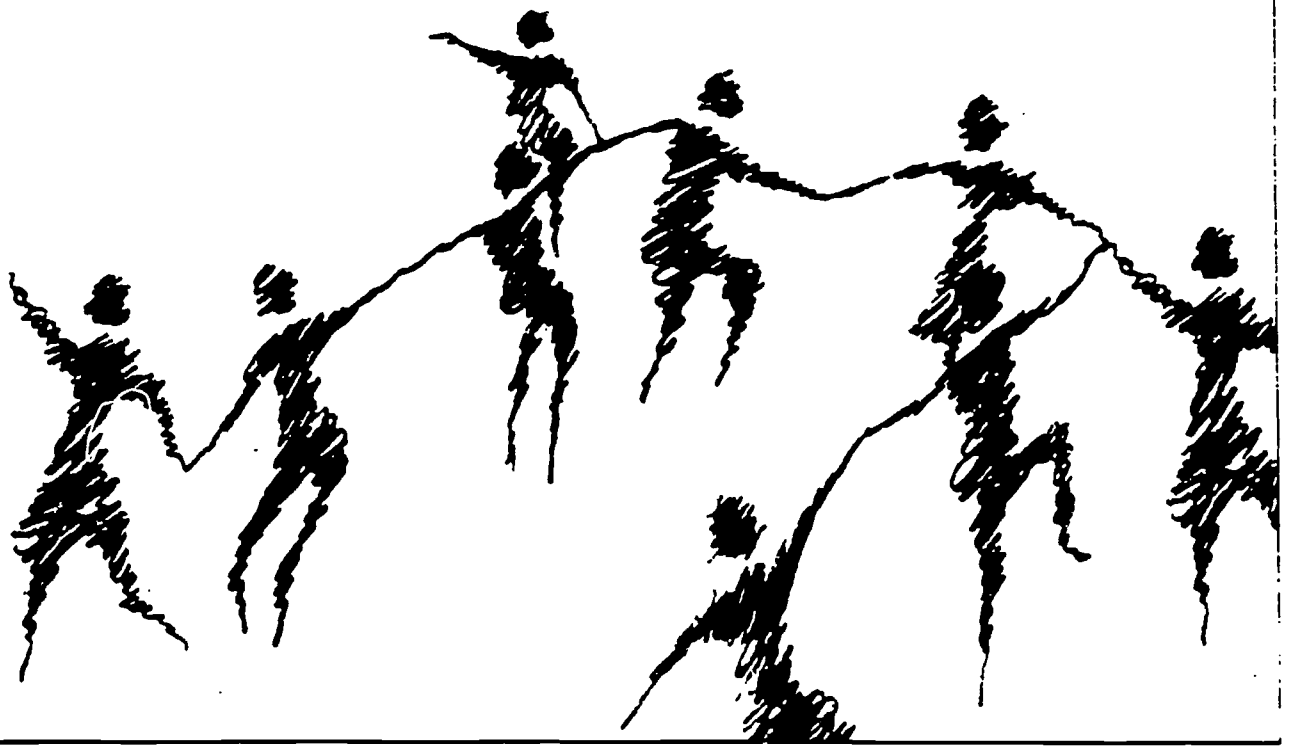
3. Painful Urination –

burning and or frequent

4. Skin changes

TYPES: sores, rashes, blisters, warts

5. Genital itching



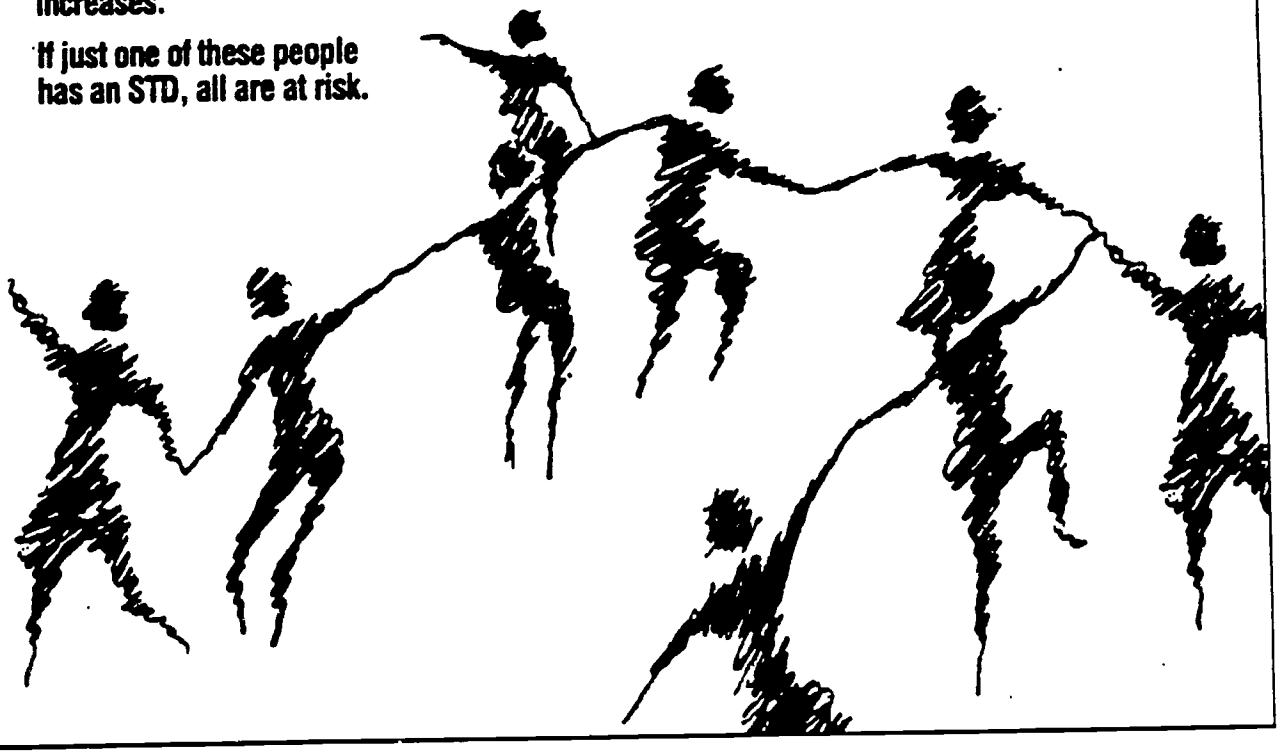
How Infection Spreads

SEXUAL ABSTINENCE =
NO RISK

ONE PARTNER =
SLIGHT OR NO RISK

With each new partner, risk increases.

If just one of these people has an STD, all are at risk.



Reducing Risk

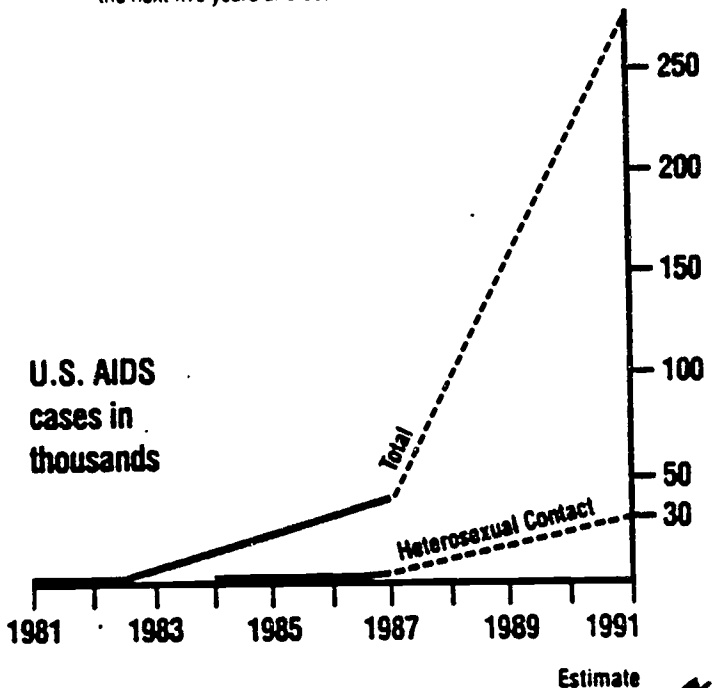
1. Steve always uses a condom during sexual activity.
2. Maria and Bob have sex only with each other
3. George uses withdrawal to prevent STDs.
4. Sally has decided not to be sexually active
5. Carl always discusses health concerns with his partners before having sex.
6. Rich has had ten sex partners in the past six months.
7. Samantha asks her doctor to test for STDs when she has a check up.
8. Stan washes with soap and water every time he has sex.
9. Bill hates to go to doctors, and whenever he notices a symptom he just waits for it to go away
10. When Lila notices an unusual vaginal discharge, she abstains from sex until she has it checked out.

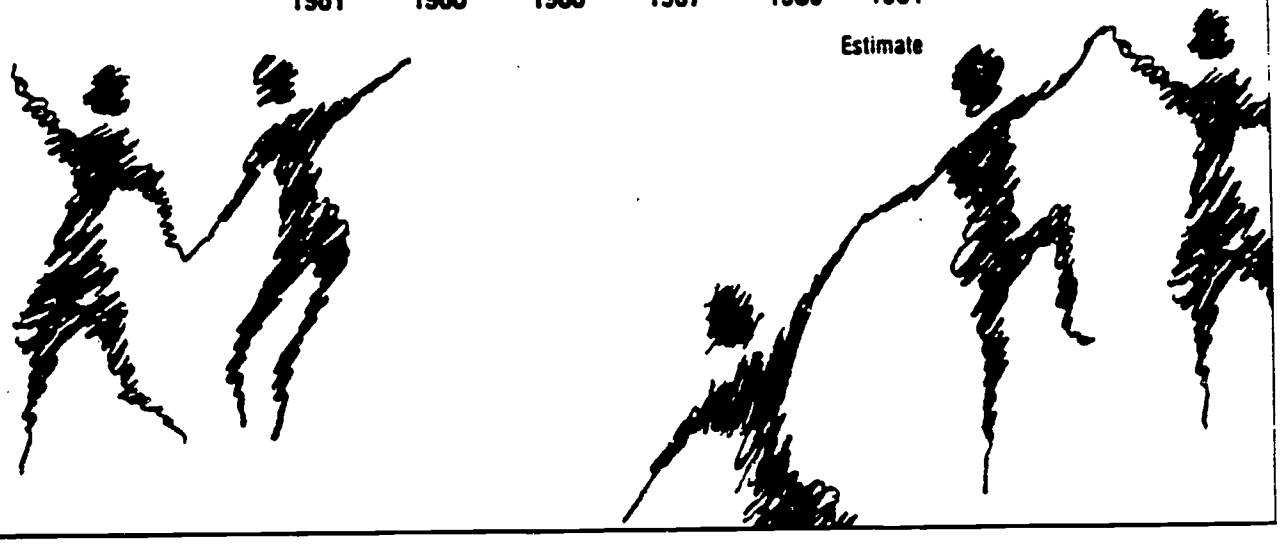
AIDS: A Growing Danger

1. In the United States, more than 30,000 AIDS cases have been reported as of 1987 and another 1.5 million people are thought to have the virus.

2. By 1991, AIDS cases transmitted by heterosexual contact may equal the number of AIDS cases found among all groups in 1986

3. If the epidemic continues to spread at its current rate, the total number of projected cases will reach 270,000 over the next five years and deaths will rise to 179,000





AIDS Supplement

SEXUALLY TRANSMITTED DISEASES

PART 1

You have already learned some facts about AIDS from the STD program just completed. You may have picked up other information by reading newspapers, watching television and talking to people about AIDS. This exercise is designed to allow you and your classmates to see how much of what you know is fact and how much is rumor or myth. You will not be graded on this exercise and you are not expected to be right on every answer.

Read the ten statements below and mark each one true or false. A class discussion will follow.

1. AIDS can be passed from one person to another by sneezing and coughing. ____
2. People who are gay or those who use intravenous drugs are the only ones who risk getting AIDS. ____
3. There is no cure for AIDS right now. ____
4. A blood test exists that will tell whether or not a person has AIDS. ____
5. You can get AIDS by donating blood. ____
6. Most of those people infected with the AIDS virus have no symptoms and appear to be healthy. ____
7. Swollen glands, low grade fever and unexplained weight loss are some of the symptoms of AIDS-Related Complex. ____
8. Any person who is sexually active can get AIDS. ____
9. Research has shown that the AIDS virus is not transmitted in families by everyday contact such as hugging, sharing food, towels or even toothbrushes. ____
10. The AIDS virus is transmitted by sexual intercourse and sharing of needles used for illegal drugs. ____

PART 2

Using all of the information you have gathered so far, including class discussion, lectures, and Activity 1B answer the questions in Column A by choosing the correct words and phrases from Column B.

For discussion in class, think about this statement:
When you decide to have sex with someone you are also having sex with every partner he or she ever had.

COLUMN A

1. Two diseases that may result from AIDS.
   _____ _____
2. Three major ways to transmit the AIDS virus.
   _____ _____ _____
3. The body's protection against infection.
   _____
4. These substances form in the blood to fight infection.
   _____
5. The two body fluids most likely to transmit the AIDS virus.
   _____ _____
6. These activities will not transmit the AIDS virus.
   _____ _____ _____

COLUMN B

1. immune system
2. blood
3. Kaposi's sarcoma
4. sexual intercourse
5. hugging
6. birth from infected mother
7. sharing towels
8. sharing drug needles
9. pneumonia
10. working with someone who has AIDS
11. semen
12. antibodies

PART 3

A. What ways can someone prevent the transmission of the AIDS virus? Do you think people — when told — will put these ideas into practice?

B. What obstacles or problems might someone have in talking about drugs, sex, or AIDS with a partner?

C. Can you suggest ways to overcome these problems?

SUPPLEMENTARY LESSON:

Understanding AIDS

Objectives:

Demonstrate general understanding of AIDS.

Demonstrate understanding of how the AIDS virus is transmitted.

Demonstrate knowledge of AIDS prevention techniques.

Materials:

Transparency 5
Activity 6

This supplement is divided into three parts. Part 1 aims to give complete and accurate background information about AIDS and to correct the myths and misinformation that have circulated since the epidemic was recognized. Part 2 details the process of exposure to and transmission of the AIDS virus. Part 3, perhaps most importantly, describes how individuals can protect themselves from AIDS. Each teacher can exercise his or her own judgment as to presenting the material in one, two or three separate lessons. Transparency 5 and Activity 6 will be described in the teacher's guide as appropriate.

PART 1

Begin by asking students to respond with "true or false" to the 10 statements that appear in the first column of Activity 6. The purpose of this preparatory exercise is to enable teacher and students to discuss and correct initial faulty ideas about AIDS and to reinforce accurate information.

After the students have completed the true-false warm-up activity, discuss each of the 10 statements. Begin by asking students to indicate by raising their hands whether they have answered true or false to statement one.

Statement one is false. Encourage the students who answered correctly to give reasons why they answered as they did, a process that will facilitate discussion. Continue in this way with all 10 statements. The following is a list of the correct answers and important points to underscore or elicit during class discussion.

1. **False.** Students should understand that everyday living does not present any risk of infection. According to the U.S. Surgeon General's Report on AIDS, "Casual social contact such as shaking hands, hugging, social kissing, crying, coughing or sneezing will not transmit the AIDS virus. Nor has AIDS been contracted from swimming in pools or bathing in hot tubs or from eating in restaurants (even if a restaurant worker has AIDS or carries the AIDS virus). AIDS is not contracted from sharing bed linens, towels, cups, straws, dishes or any other eating utensils. You cannot get AIDS from toilets, doorknobs, telephones, office machinery or household furniture. You cannot get AIDS from body massages, masturbation or any non-sexual contact."

2. **False.** Although the initial discovery was in the homosexual community, AIDS is not a disease only of homosexuals. AIDS is found in heterosexuals, people of all colors, men, women and children. According to the Surgeon General's report, infection results from a sexual relationship with an infected person or from injecting illegal drugs with needles or syringes previously used by an infected person.

3. **True.** Worldwide, research is underway to find a cure for AIDS. Nevertheless, discovery of a cure or a vaccine is probably some years away. Presently there are experimental treatments for AIDS such as the drugs AZT and Ribavirin. These drugs are believed to slow the multiplication of the virus but neither eliminates the virus from the body.

4. **False.** The blood test called the ELISA test can screen blood to detect the presence of the antibody to the AIDS virus. A positive test does not mean that a person has AIDS or will get AIDS. It means that the individual has been infected with the virus that causes AIDS and could infect others with whom he or she exchanges body fluids — primarily blood and semen. This test is not a diagnosis. There is no single, simple test for AIDS, itself. AIDS is, however, a condition that can develop from infection with the AIDS virus. The virus weakens or destroys the immune system leaving the body vulnerable to life-threatening diseases caused by bacteria, fungi or other viruses. AIDS is diagnosed when one or more "opportunistic" diseases are found that would not appear in people with healthy immune systems. Most common of these opportunistic diseases are Kaposi's sarcoma (a form of cancer) and Pneumocystis carinii pneumonia (PCP) — a rare form of pneumonia.

5. **False.** Only disposable needles are used at blood collection centers. These needles are never re-used. Therefore, there is no risk whatsoever in donating blood.

6. **True.** Not everyone who has the AIDS virus has developed AIDS. The virus is believed to remain in the blood for life and all those with the AIDS virus should consider themselves contagious. Between 10% and 40% of those with the virus will eventually develop AIDS within five years.

7. **True.** Some people who are infected with the AIDS virus will develop symptoms, but not the specific illnesses required for an AIDS diagnosis. These people are said to suffer from AIDS-Related Complex (ARC). The ailments that characterize ARC range from mildly swollen glands, low grade fever and unexplained weight loss to various degrees of immune deficiency and infections. For every AIDS patient 10 people may suffer from ARC. Preliminary studies suggest that from 10% to 30% of the estimated 350,000 ARC patients throughout the nation will eventually develop AIDS.

8. **True.** Men and women, homosexual and heterosexual, can get AIDS, if they don't take precautions.

9. **True.** See explanation number 1.

10. **True.** See explanation number 2.

The next two parts of this lesson focus on transmission and prevention. Before continuing, show Transparency 5 to the class. Transparency 5 will demonstrate graphically the number of people with AIDS, and the increase in cases in the heterosexual population.

PART 2

Part 2 covers the major ways the AIDS virus is transmitted and reinforces the difference between casual contact and the contact necessary to transmit the AIDS virus.

In opening remarks to students emphasize that AIDS is not transmitted by casual contact and that AIDS is actually hard to get. The virus must get from the blood of the infected person into the blood of an uninfected person. This usually happens through an exchange of body fluids, most commonly blood and semen. The virus travels by means of the following behaviors:

1. Sharing needles during drug use.
2. Sexual intercourse with a person who is already infected with the virus.
3. Infected mother to fetus.

Ask students to complete Part 2 of Activity 6 to check for understanding of the preceeding material. The correct answers are listed below:

1. **Kaposi's sarcoma**
   Pneumonia
2. **Sharing drug needles**
   Sexual intercourse
   Birth from infected mother
3. **Immune system**
4. **Antibodies**
5. **Blood**
   Semen
6. **Sharing towels**
   Working with someone who has AIDS
   Hugging

After reviewing the correct answers ask students to think about the statement in Part 2 of Activity 6. Give students a few moments to react silently to this statement and then provide an opportunity for class discussion. If necessary, stimulate discussion with the following questions:

1. What does this statement mean?
2. In light of this statement, how important is it to know each partner very well?
3. What questions might someone have for a future partner based on this statement?
4. How well can anyone know a potential partner? (Teachers will want to elicit this primary point: knowing partners well enough to decide whether or not they have the AIDS virus is impossible. Even partners who are being as honest as they can about their own pasts, may not know the histories of their former partners. Students should understand that the only way to be safe is to use a condom—and use it correctly—or not to have sex at all.)

PART 3

While it is important to have current information about AIDS, teens may have difficulties in implementing what they have learned for a variety of reasons.

Part 3 of Activity 6 provides a format for class discussion of the points raised in this AIDS supplement.

Remember, transmission of the AIDS virus is by the exchange of body fluids (particularly blood and semen). The use of condoms during sexual activity is believed to protect both partners from exchange of the AIDS virus, as long as the condom is used correctly from the beginning to the end of sexual activity, and the condom does not break.

While students review Activity 2 "Understanding Your Risk," the teacher should make three columns on the chalkboard, listing at the head of each, one of the major ways that the AIDS virus is transmitted—sharing needles, sexual intercourse and birth from an infected mother.

After students have reviewed Activity 2, the teacher should commence with the first question of Part 3 on the activity master.

Ask students to consider each question carefully and make notes on the back of Activity 6, if necessary, prior to class discussion. Suggestions follow as to points to elicit during discussion.

A. Possible responses are:

Sharing needles
Don't use IV drugs.

Don't share drug needles.

Sexual intercourse
Don't have sex.

Always use condoms and spermicides

Limit the number of partners.

Find out partner's sexual history and whether person has practiced any risky behaviors.

Don't exchange body fluids—blood or semen.

Birth
Use birth control.

Have antibody test before considering pregnancy.

Encourage class discussion and debate about whether or not teens will put these recommendations to use.

B. Encourage students to brainstorm. Expect answers such as embarrassment, lack of knowledge, implication that person is gay, peer pressure to take risks, feeling that "it won't happen to me" (denial).

C. Acknowledge that the obstacles listed above are real. Encourage students to weigh the benefits of protection against the embarrassment and awkwardness of using condoms and communicating about specific sexual activities. Point out that partners often appreciate the concern expressed.

Students should mention the trust and closeness that are necessary to discuss sexual topics. There's a saying "If you don't feel close enough to talk about sex with a person, you may not be close enough to have sex with that person."

FACTS

used with spermicides containing
-9 provide excellent, though not
ctive, protection against transmis-
AIDS virus, since condoms some-
k or are used incorrectly.

1987 it is estimated that 1-2 mil-
in the United States are infected
DS virus. Of these about 350,000
oped ARC and 30,000 have been
with AIDS. Experts believe that 10-
se with the virus will eventually
DS.

period for AIDS can vary from 6
15 years. Because of the possibil-
incubation period many people
it the virus before they know they
l.

e person with AIDS dies within two
diagnosis. Over 50% of those di-
ve already died. So far, no one
with AIDS has recovered.

ws exactly where AIDS came
s first recognized in the U.S. in
ugh the first case can be traced
8.

information you can call:

l AIDS Hotline
AIDS
ays a week

GLOSSARY

Acquired—a condition which is not inherited or present from birth.

AIDS—(Acquired Immune Deficiency Syndrome)—a serious condition characterized by a defect in the natural immunity against disease.

Antibody—protein substance developed by the body to fight disease organisms.

ARC—(AIDS-Related Complex)—characterized by a prolonged (two weeks or more) fever, unexplained weight loss, swollen lymph nodes, and/or fungus infection of mouth and throat.

Deficiency—a breakdown or inability of certain parts of the immune system, making a person more susceptible to certain diseases to which the person would not ordinarily be subject.

ELISA—(Enzyme Linked Immunosorbent Assay)—a testing method to detect antibodies to HIV (Human Immunodeficiency Virus)—the virus that causes AIDS.

Immune System—the body cells that recognize foreign organisms or substances, neutralize them, and recall the experience later when confronted with the same organisms.

Kaposi's Sarcoma—a type of cancer usually occurring on the surface of the skin or in the mouth; may also spread to internal organs.

Opportunistic Infections—illnesses which would not be serious to anyone whose immune system is functioning normally.

PCP—(Pneumocystis Carinii Pneumonia)—a parasitic infection of the lungs; the most common opportunistic infection in AIDS patients.

Safe Sex—also known as "Safer Sex" or "Healthy Sex:" a system of classifying specific sexual activities according to their risk of transmitting the virus: "safe sex" guidelines are used by people to avoid high risk behavior without having to give up sexual activity; those acts which are defined as "safe" involve no exchange of body fluids.

Syndrome—a group of symptoms and diseases that together are characteristic of a specific condition.

Virus—minute, parasitic disease-causing organism that depends on cells for its growth; not affected by antibiotics.

Was this program useful to you and your class? The American Social Health Association and Abbott Laboratories would like to know how you feel about the teaching materials in this packet. Would you take a moment to answer the questions below and return this form to us? Thank you.

1. With what grade(s) and class(es) did you use this program?

_____

_____

2. With how many students did you use this program? _____

3. Was the teacher's guide ___ very helpful in presenting program? ___ fairly helpful in presenting program? ___ not helpful in presenting program?
Comments: _____

_____

_____

4. Were the activity masters ___ very easy to use and understand? ___ fairly easy to use and understand? ___ difficult to use and understand?
Comments: _____

_____

_____

5. Were the transparencies ___ very easy to use and understand? ___ fairly easy to use and understand? ___ difficult to use and understand?
Comments: _____

_____

_____

6. How would you rate the treatment of the subject matter in this program? ___ thorough ___ adequate ___ too brief

7. As a result of using this program, how many of your students do you believe will change certain of their behaviors or attitudes? ___ more than half ___ about half ___ fewer than half
Comments: _____

_____

_____

8. Do you have suggestions for improving this program?
Comments: _____

_____

_____

Teacher's Name _____
Address _____

_____

Please use the back of this form for additional comments.

Evaluation Form

SEXUALLY TRANSMITTED DISEASES

TEACHER INFORMATION

Objective

AIDS is a communicable disease.

Learner Outcome

Know ways the AIDS virus can and cannot be transmitted.

Comprehensive Health Education Topic(s)

VI Diseases and Disorders

Values Integration

Reasoning: Understanding the consequences associated with AIDS transmission.

Respect for Self: Awareness and concern for one's own health.

Motivating Activity

The teacher will distribute an "AIDS MYTH-FACT SHEET" to students.

Identification

Students will identify the ways that the AIDS virus can be transmitted:

- sexual intercourse with an infected partner
- sharing IV drug needles with an infected user
- infected mother to unborn baby
- transfusion of infected blood or blood fractions

Students will identify ways in which the AIDS virus cannot be transmitted:

- sneezing
- using toilets
- using swimming pools
- eating in restaurants
- donating blood
- being in the same class as someone with AIDS

Effective Communication

Students will discuss each item on the "AIDS MYTH-FACT SHEET," correcting misstatements as they review the sheet.

Decision Making

Students will reorganize the "AIDS MYTH-FACT SHEET" to provide statements about how the AIDS virus is transmitted.

Positive Health Behaviors

Students will demonstrate an understanding of how the AIDS virus is transmitted.

Students will recognize ways that the AIDS virus cannot be transmitted.

Students will carry out their everyday activities with increased confidence.

AIDS MYTH-FACT SHEET FOR LESSON #29
(grades 9-12)

In front of each statement that is true, put a T, and for each statement that is false, put an F.

1. Due to the ways the AIDS virus is transmitted, it is unlikely that AIDS can be transmitted by sitting next to someone in class.
2. Abstinence from sexual intercourse is the surest way to prevent transmission of AIDS virus.
3. People can look and feel healthy and still transmit the AIDS virus.
4. People who shoot drugs and share their needles can get the AIDS virus.
5. There is a vaccine to prevent AIDS.
6. Women cannot transmit the AIDS virus.
7. Everyone who engages in sexual intercourse can be at risk for AIDS.
8. Everyone infected with the AIDS virus has developed AIDS.
9. A person can get AIDS from giving blood.
10. AIDS, itself, usually does not kill a person.
11. Most children with AIDS got it from an infected mother.
12. A person who is concerned can be tested for the AIDS virus.
13. There is both a national and a State toll-free telephone hotline for AIDS information.

Answers to AIDS MYTH-FACT SHEET #29

1. True
2. True
3. True
4. True
5. False
6. False
7. True
8. False
9. False
10. True
11. True
12. True
13. True

The U.S. Public Health Service 24-hour AIDS national hotline phone number is 1-800-342-AIDS. The South Dakota State Hotline is 1-800-592-1861

TEACHER INFORMATION

PREPARATION OF THE GAME - "AIDS Concentration"

1. Using the "AIDS Concentration Game Card Master", duplicate on cover stock the number of sets of cards equal to the number of groups of students in your classroom. Cut the cards apart, keeping them in individual sets for each group of students.

   Number the reverse side of each set of cards from 1 to 30.

   Note: This activity is modeled after the game "Concentration".

AIDS Concentration Game Card Master

AGENT	HUMAN IMMUNODEFICIENCY VIRUS (HIV)
RESERVOIR	HUMAN IMMUNE SYSTEM
RESERVOIR	ASYMPTOMATIC CARRIER
PLACE OF EXIT	PENIS
PLACE OF EXIT	VAGINA

AIDS Concentration Game Card Master

PLACE OF EXIT	CONTAMINATED BLOOD
METHOD OF TRANSMISSION	UNPROTECTED SEXUAL INTERCOURSE
METHOD OF TRANSMISSION	SHARING NEEDLES
METHOD OF TRANSMISSION	INFECTED PREGNANT WOMEN TO UNBORN CHILD
METHOD OF TRANSMISSION	CONTAMINATED BLOOD PRODUCTS

AIDS Concentration Game Card Master

PLACE OF ENTRY	ANUS
PLACE OF ENTRY	PENIS
PLACE OF ENTRY	VAGINA
PLACE OF ENTRY	BLOOD
SUSCEPTIBLE HOST	ANYONE ENGAGING IN RISK BEHAVIORS

"Game - AIDS Concentration"

Chain Links	AIDS Characteristics
Agent	HIV
Reservoir	asymptomatic carriers
Reservoir	human immune system
Place of Exit	contaminated blood
Place of Exit	penis
Place of Exit	vagina
Method of Transmission	unprotected intercourse
Method of Transmission	sharing needles
Method of Transmission	infected pregnant women to unborn child
Method of Transmission	contaminated blood
Place of Entry	penis
Place of Entry	vagina
Place of Entry	anus
Place of Entry	blood
Susceptible Host	anyone engaging in risk behaviors

TEACHER INFORMATION

AIDS: THE PREVENTABLE EPIDEMIC
GRADES 9-12

OBJECTIVE:

The learner will demonstrate the ability to comprehend the high and low risk behaviors that spread HIV.

MATERIALS:

Transparencies on Body Fluids, HIV Transmission and Risk Factors, Pages
Merrill Student Text, Pages 10-13
Student Worksheet, Page

VOCABULARY:

Abstinence, monogamy, masturbation, condom, hemophiliac, semen, vaginal/cervical secretions, amniotic fluid, fetus

PROCEDURES:

1. Conduct the STD Shuffle.
2. Tell the students that the purpose of this lesson is to learn about how HIV is spread. Emphasize to students that AIDS is a disease of risk behaviors. Transmission of the virus is due to risk behaviors people take as demonstrated in the STD Shuffle.
3. Assign student reading in the Merrill text, pages 10-13. Direct students to study the risk factors quietly with a partner, with each person verbalizing the information.
4. Use the transparencies on body fluids and transmission to summarize and clarify concepts so that students have a clear understanding of information and are given the opportunity to ask questions.
5. Assign the risk behavior worksheet. Students can work in small groups or individually.
6. As a class, debrief the results of the activity. Students should be able to conclude that high risks apply to all individuals. Provide a follow-up discussion on the concept that behaviors, not groups, are responsible for HIV transmission.

EVALUATION:

Completion of the student worksheet and participation in discussion are two suggested methods of evaluation.

AIDS: THE PREVENTABLE EPIDEMIC
GRADES 9-12

STD SHUFFLE

An individual cannot tell whether it is safe to have sex with or to share needles with another person by looking for signs of illness or by asking the other person if he or she is healthy. Most infected persons have no symptoms or outward signs of illness, and most do not know, themselves, that they are infected.

This is an introductory activity that demonstrates how STD's/HIV can spread through a population.

Preparation: Index cards for everyone in class

Mark on two index cards in the upper corner A

Mark on one index card in the upper corner M

Mark on one index card in the upper corner C

Mark on one index card in the upper corner +

All of the other index cards are plain.

Implementing the activity:

As students come in the room, hand each one an index card being sure that the five marked ones are randomly handed out.

Ask students to have a pencil or pen ready.

When all students are present, instruct them to go around the room and meet 5 people. They write the names of the people on their cards as they meet them. Students are pretending that one person is infected with an STD or HIV. The meeting of people represents sexual exposure. When each person has met 5 others, have them return to their seats.

Call on the student with the + marked card to stand and read the names on his or her card. That person is designated as infected with a virus such as HIV. Each person stands as their name is read. Ask if any have a letter in the corner of their index card. If they have, then they can sit down. They did not get infected because they practiced the following:

HIGH RISK BLOOD SHARING

HIV is easily transmitted through blood contaminated instruments. Infected blood that carries HIV may be injected into an uninfected person by the sharing of needles, tattoo instruments, or anything else that has the potential to puncture intact skin. Often IV drug users will draw blood from their veins into the needle. Thus, when IV drug users share needles, they also share blood. Over half the women who have contracted AIDS in the United States have acquired their disease by sharing needles in this fashion. Most babies infected with AIDS at birth were delivered by mothers who were IV drug users.

Before 1985, when the HIV antibody test became available, receiving transfusions of blood or blood products was risky. Person's with hemophilia (an inherited blood disorder that delays the clotting of blood) require frequent injections of clotting factor prepared from many hundreds of blood donors to prevent bleeding episodes. Many of these clotting factor preparations were also contaminated with HIV early in the epidemic.

Since the advent of testing, this risk has been largely eliminated. A person that contracted AIDS in the past as a result of receiving a blood transfusion did not contract the disease as a result of a preventable behavior.

SEXUAL INTERCOURSE

Stress that many types of unprotected sexual behaviors are dangerous and may lead to infection with HIV. Contrary to what some people may believe, HIV can be transmitted through sexual intercourse from man to woman and woman to man. Intercourse must be viewed as risky if done outside of a monogamous relationship. If a condom is used, the risk is lessened, but not eliminated.

ANAL INTERCOURSE

Emphasize that anal intercourse is one of the risk behaviors most strongly linked with HIV transmission. This sexual act frequently results in anal tears, which expose blood vessels, making it easy for HIV to enter the bloodstream. Both partners are susceptible to contracting HIV during anal intercourse. However, it is clear that the partner who receives the penis is the one more likely to contract HIV.

ORAL-GENITAL INTERCOURSE

You may choose to introduce the terms fellatio and cunnilingus. Fellatio is the oral stimulation of the penis by a male or female. Cunnilingus is the oral stimulation of the vagina or clitoris by a male or a female. Fellatio is more likely to result in the transmission of HIV from an infected partner than cunnilingus. This is because semen contains more HIV than do vaginal secretions. However, HIV infection can result from either fellatio or cunnilingus.

A = ABSTINENCE

M = MONOGAMY

C = CONDOM

The students who are still standing from the original five then read out their cards and all those people stand. Again anyone that has a A, M, or C can sit down as they are not infected. You continue until everyone has read their card or everyone who does not have a marked card is standing.

This quickly demonstrates how HIV or any STD can spread through the population.

HOW HIV IS SPREAD

Since HIV is found in blood, semen, and vaginal/cervical secretions of infected persons, it follows that AIDS is spread by behaviors that involve the exchange of these fluids between infected and uninfected persons.

The most common way that the HIV is transmitted is by sexual intercourse. HIV can be transmitted sexually from man to man, man to woman, and woman to man. The second most common way that HIV is transmitted is by the sharing of IV drug needles or syringes that have become contaminated with blood of a user who is infected. A third way that HIV can be transmitted is through the blood of an infected mother to her fetus or newborn. In the past, people who received blood transfusions or blood products occasionally developed AIDS because the person who donated the blood was infected with HIV. Since 1985, all blood donated in this country has been screened for HIV infection. Blood that is found to be infected is discarded and is not transfused.

Initial publicity about AIDS emphasized the populations that were most affected. Today, AIDS is best thought of as a disease of risk behaviors rather than of types of people. While the majority of people who contracted AIDS previously were homosexual males and intravenous drug users, the incidence of AIDS is now increasing among heterosexuals and those who do not use intravenous drugs.

Through engaging in risk behaviors, anyone, whether heterosexual, homosexual, or bisexual can get AIDS. In many parts of central Africa, AIDS is present in a large segment of the entire population and cases in women are as common as in men.

LOW RISK

There have been no documented cases of HIV transmission from saliva, tears, amniotic fluid, feces, or urine. These fluids are considered low risk because it is possible, although unlikely, that they contain HIV, (one HIV positive person's saliva out of 71 infected persons studied showed presence of HIV). Because there is a chance of human immunodeficiency virus transmission in these fluids, we consider exposure to these fluids to be low risk. Consequently, people should limit exposure to saliva as in deep or French kissing, however, this is not as critical as avoiding exposure to blood, semen, or vaginal/cervical secretions.

EXPLANATION OF RISK FACTORS - Transparency

The numbers on the transparency for risk factors of persons with AIDS are 5-10 years behind those for HIV infection today because of the incubation period between infection and development of symptoms. These figures, however, provide the best information on behaviors that have caused individuals in the past to become infected with HIV.

Laboratory workers also have not been at an additional risk when they follow safety procedures when handling blood and tissue samples of AIDS patients. However, all health care and laboratory workers must be careful to avoid being accidentally stuck with needles or other sharp objects used in the care of AIDS patients.

The AIDS virus has been found in body fluids and secretions such as blood, semen, tears, sweat, saliva, vaginal secretions, feces, urine, and breast milk. However, the virus has been found to be transmitted through blood, semen, vaginal secretions, feces, and urine. This does not mean that the AIDS virus will not be transmitted in any of the other body fluids. For example, the AIDS virus, which may exist in small amounts in saliva, could possibly be transmitted by open-mouth kissing. Thus, open-mouth kissing is considered to be a potential risk behavior in the transmission of the AIDS virus. *The AIDS virus can be spread from male to male, male to female, female to male, or female to female.*

The AIDS virus may be transmitted in blood, semen, vaginal secretions, urine, and feces

How The AIDS Virus Is Transmitted

Regardless of the method, whenever there is an exchange of body fluids, transmission of the AIDS virus is possible. The AIDS virus is known to be transmitted by the following means.

- sexual contact
- sharing blood-contaminated needles
- transfusion of infected blood or blood products
- during pregnancy from an infected woman to her fetus

To become infected with the AIDS virus, body fluids must be exchanged between an infected person and an uninfected person

RISK BEHAVIORS

There are risk behaviors in connection with these means of transmitting the virus that you must consider. It is important to understand that a person who is infected with the AIDS virus may not have the disease AIDS. Yet, an infected person, having no signs and symptoms, may infect others by engaging in the following risk behaviors.

A person infected with the AIDS virus who has no symptoms of the disease may infect others

Risk Behavior

Sexual Intercourse with an Infected Partner

Sexual intercourse is the insertion of an erect penis into the vagina. During sexual intercourse, the virus can enter the bloodstream of the uninfected partner.

Suppose a female has sexual intercourse with an infected male. After the male ejaculates, or releases semen, the AIDS virus in the semen is deposited in the vagina. If there are any tears in the vaginal linings or in other areas near the vagina, such as the cervix, tiny blood vessels will be exposed. The infected semen may enter the female's bloodstream through these blood vessels and thus infect her with the AIDS virus.

Suppose a male has sexual intercourse with an infected female. The female will have vaginal secretions that contain the AIDS virus. The virus can enter the male's bloodstream if he has any tears in the skin of the penis. Thus, the male can become infected with the AIDS virus.

The AIDS virus can be transmitted during sexual intercourse

Risk Behavior

Anal Intercourse with an Infected Partner

Anal intercourse is the placing of an erect penis into the anus of a partner. This sex act can promote the transmission of the AIDS virus. Rectal tissue is easily torn during anal intercourse. This exposes tiny blood vessels. Upon ejaculation, semen from an infected partner can enter the bloodstream through the tears in the anus of the other partner.

The AIDS virus can be transmitted during anal intercourse

Because the AIDS virus is in the body fluids and mucous membranes of infected persons, it is also possible to transmit the virus from fluids in the anus of one partner to the penis of the other partner. If there is a break in the skin of the penis, the virus in the mucous membranes of the anus may enter the bloodstream.

The AIDS virus is in the body fluids and mucous membranes of infected persons

Risk Behavior

Oral-Genital Intercourse with an Infected Partner

Oral-genital intercourse is the stimulation of the genitals by the partner's mouth. If there are tears in the penis or vagina, the AIDS virus present in the saliva of an infected partner may enter the bloodstream of the other partner. If there are tears in the mouth or gums of either partner, semen or vaginal fluids containing the virus may enter the bloodstream through the tears in the one partner's mouth tissue.

The AIDS virus can be transmitted during oral-genital intercourse

Risk Behavior

Open-Mouth Kissing with an Infected Partner

It is possible for the AIDS virus to be transmitted through open-mouth kissing if (1) one partner is infected with the AIDS virus and (2) the other partner has cuts or sores in the mouth. The AIDS virus may enter the cuts or sores and enter the bloodstream.

The AIDS virus may be transmitted during open-mouth kissing between an infected person and an uninfected person who has mouth or gum sores

Risk Behavior

Sexual Contact with Multiple Sex Partners or with Someone Who Has Had Multiple Sex Partners

Persons with multiple sex partners increase the likelihood of infecting themselves and others with the AIDS virus

The greater the number of sex partners someone has or has had, the more likely that person is to eventually have sexual contact with someone who is infected with the AIDS virus. It is possible to become infected with the AIDS virus through only one sexual contact. Another person who has sexual contact with that person may become infected with the AIDS virus. Having sexual contact with someone who has had multiple sex partners greatly increases the risk of becoming infected with the AIDS virus.

Risk Behavior

Sexual Contact with Prostitutes

Prostitutes engage in known risk behaviors that increase the likelihood of their infecting themselves and others with the AIDS virus

Male and female prostitutes and persons having sexual relations with prostitutes are at special risk of becoming infected with the AIDS virus. Prostitutes frequently engage in sexual intercourse, anal intercourse, and oral-genital intercourse with many partners. This increases the likelihood that they will engage in sexual acts with someone who is infected with the AIDS virus and then will spread it to others. In addition, a high percentage of prostitutes are also intravenous drug users. They may become infected with the AIDS virus during sexual acts and spread the AIDS virus during intravenous drug use.

Risk Behavior

Sharing Blood-Contaminated Needles During Intravenous Drug Use

Blood containing the AIDS virus may be transmitted when persons share a needle for intravenous drug use

Intravenous drug users are persons who inject drugs into their veins. AIDS is spread among intravenous drug users when one person uses another's needles to inject drugs. Suppose a person is infected with the AIDS virus and uses a needle. A small amount of this person's blood containing the AIDS virus may be left on the needle. The needle is then shared with another drug user. The AIDS virus is then injected with the drug into the second person's bloodstream. This person is now infected with the AIDS virus. The needle may be shared again and again spreading the virus to several persons. A person who becomes infected through intravenous drug use can also spread AIDS through sexual contact.

Risk Behavior

Transfusion with Infected Blood or Blood Products

A blood transfusion is the injecting of blood, such as during an operation, into another person. Sometimes, people give blood and have it stored in case they themselves may need a transfusion later. By doing this, they ensure getting their own blood in the transfusion process. However, in most cases, the recipient of a blood transfusion receives blood from another person. Before March 1985, it was possible that persons receiving blood transfusions could become infected with AIDS. These persons received blood that may have been collected from a person infected with the AIDS virus.

Since March 1985, donated blood has been tested for the AIDS virus

Since March 1985, all donated blood in the United States is tested for the presence of AIDS antibodies. Currently, there is an extremely small chance that AIDS will be spread from a blood transfusion in the United States. Individuals who engage in risk behaviors or who have AIDS should not be donating blood, semen, or body organs. AIDS cannot be contracted from giving blood, since disposable needles are always used to collect the blood.

Persons who engage in risk behaviors should not donate blood

Risk Behavior

Pregnancy of an Infected Woman

AIDS has been diagnosed in babies born to women who have AIDS or who have been infected with the virus. These babies do not gain weight normally, are pale and weak, and have difficulty breathing because of severe lung infections. Babies born with AIDS usually die within two years.

If a woman is infected with the AIDS virus and becomes pregnant, she is more likely to develop AIDS. She may pass the AIDS virus to her fetus whether or not she develops the disease. The AIDS virus can pass from the mother's blood to the fetus across the placenta. Approximately one third of the babies born to women infected with the AIDS virus are infected with AIDS and die. Most of the mothers of these babies were intravenous drug users or were married to intravenous drug users. Some of these women had partners who were involved in high-risk sexual behaviors with others.

The AIDS virus can be transmitted from the blood of an infected woman to her fetus during pregnancy

Review and Reflect

3. How might a laboratory worker contract AIDS?
4. Why is intravenous drug use a known risk behavior for the transmission of the AIDS virus?
5. Why is sexual contact with prostitutes a risk behavior?

AIDS: THE PREVENTABLE EPIDEMIC
GRADES 9-12

RISK BEHAVIOR ANALYSIS

NAME
Group Members

Directions: Listed below are high risk behaviors. Check or mark each individual that could become infected by participating in that particular high risk behavior. There can be more than one check mark for each behavior.

HIGH RISK BEHAVIOR	HETERO-SEXUAL	HOMO-SEXUAL	BI-SEXUAL	IV DRUG USER
Sexual Intercourse with an Infected Partner				
Anal Intercourse with an Infected Partner				
Oral-Genital Intercourse with an Infected Partner				
Sexual Contact with Multiple Sex Partners or with Someone Who Has Had Multiple Sex Partners				
Sexual Contact with Prostitutes				
Sharing Blood-Contaminated Sharp Instruments (Needles during IV drug use, earpiercing, tattoo needles)				

Based on the results of this activity, what is your conclusion about HIV transmission:

TEACHER'S KEY

AIDS: THE PREVENTABLE EPIDEMIC
GRADES 9-12

RISK BEHAVIOR ANALYSIS

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HIGH RISK BEHAVIOR	HETERO-SEXUAL	HOMO-SEXUAL	BI-SEXUAL	IV DRUG USER
Sexual Intercourse with an Infected Partner				
Anal Intercourse with an Infected Partner				
Oral-Genital Intercourse with an Infected Partner				
Sexual Contact with Multiple Sex Partners or with Someone Who Has Had Multiple Sex Partners	Student responses will vary.			
Sexual Contact with Prostitutes				
Sharing Blood-Contaminated Sharp Instruments (Needles during IV drug use, earpiercing, tattoo needles)				

Based on the results of this activity, what is your conclusion about HIV transmission:

Behaviors, not groups put one at risk for HIV infection and AIDS.

The Body's Defenses

Skin - first line of defense; when unbroken it acts as a barrier

Mucous membranes - protective linings of body openings

Mucus - sticky protective coating produced by mucous membranes; traps pathogens

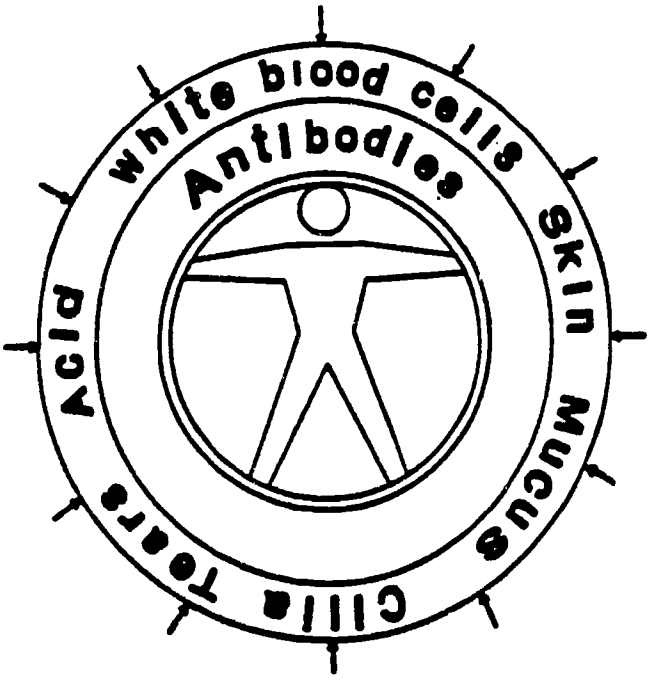
Cilia - hairlike projections in the nose and throat; trap pathogens

Tears - protect eyes by continually washing them and keeping pathogens from entering the eyes

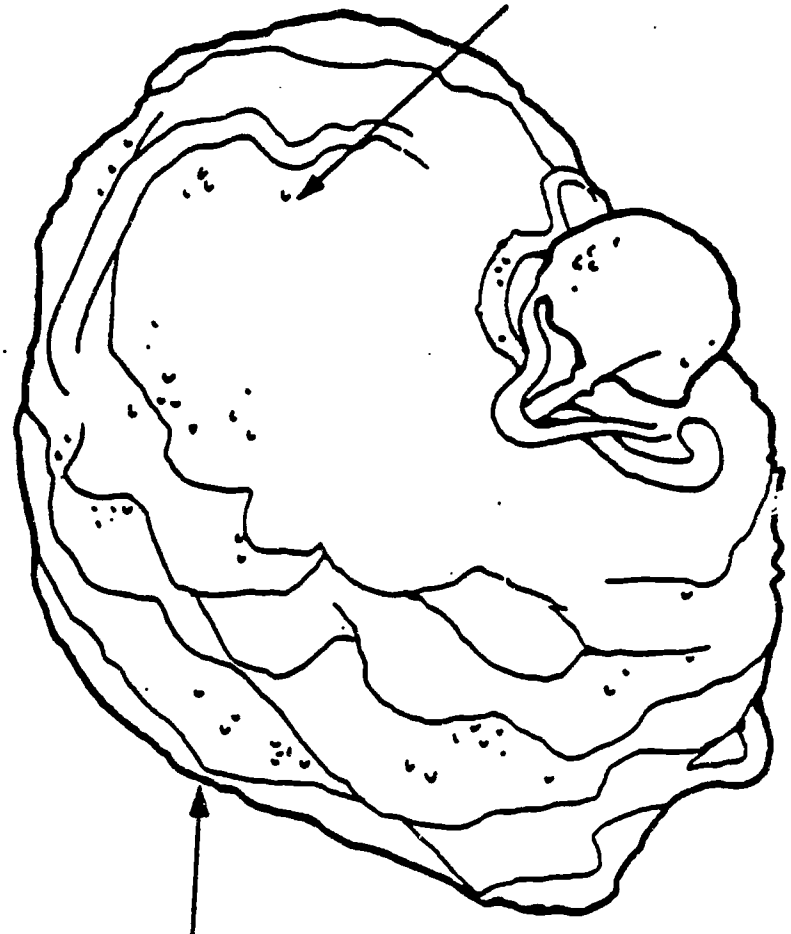
Stomach acids - destroy pathogens ingested with foods

White blood cells - surround and destroy pathogens

Antibodies - protein substances produced in blood that destroy pathogens

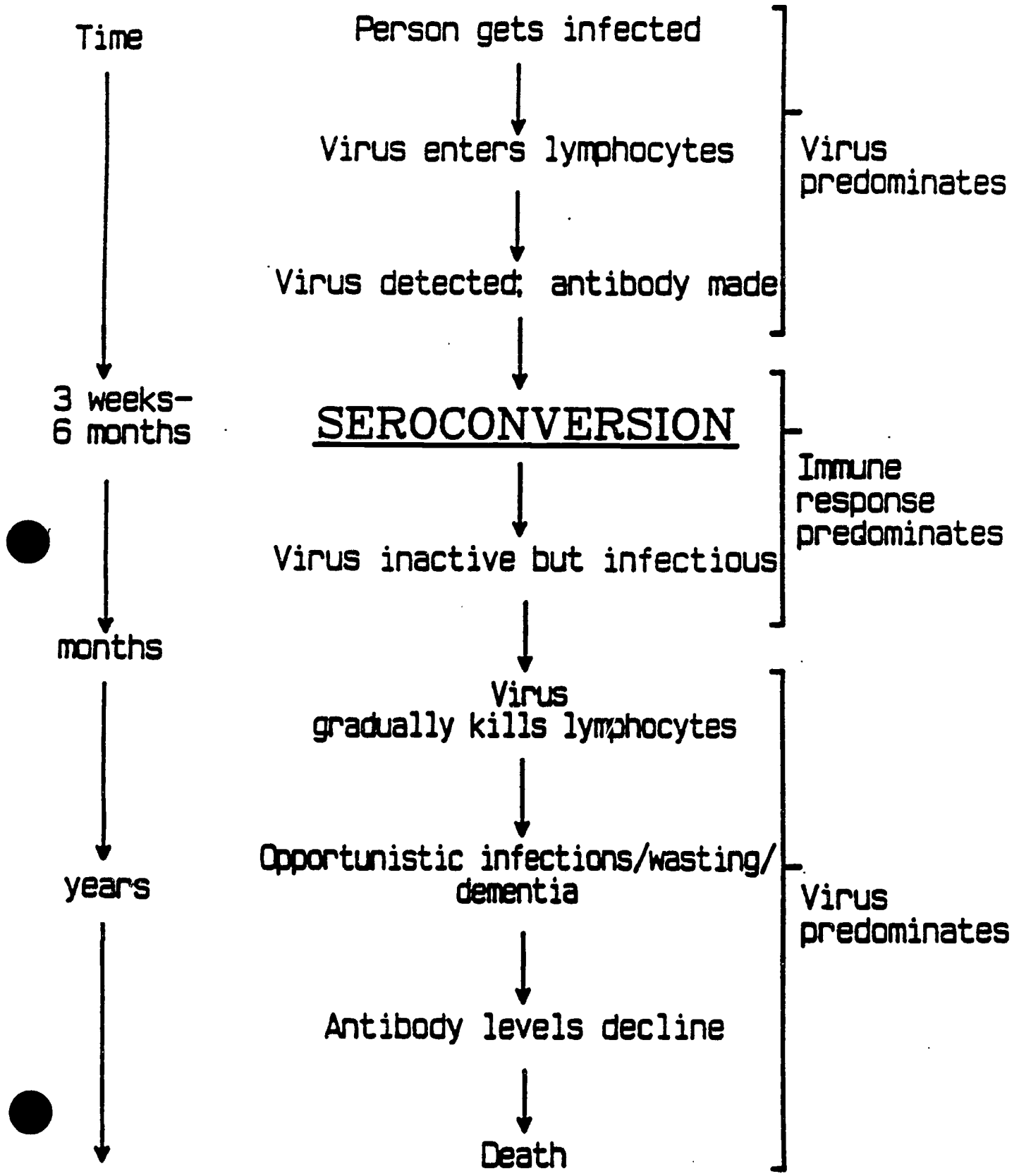


AIDS VIRUS

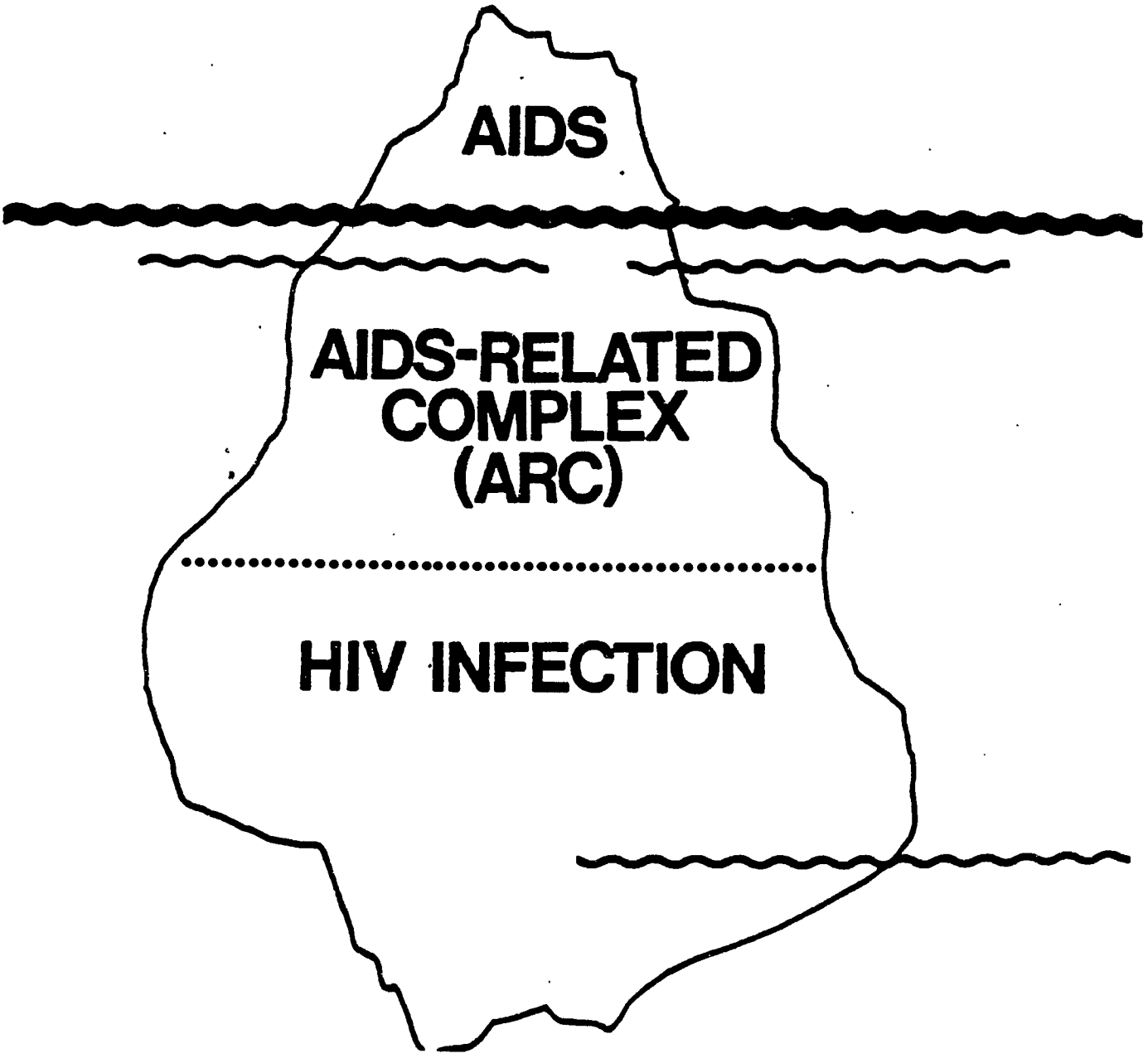


HELPER-T CELL

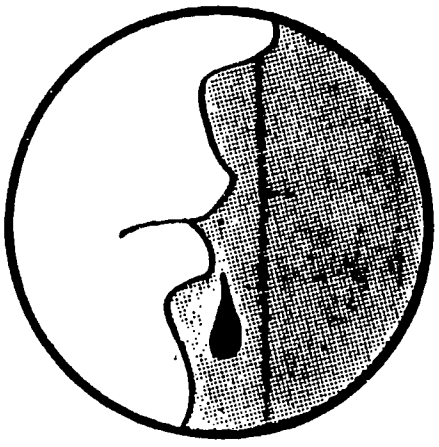
HIV Disease Progression



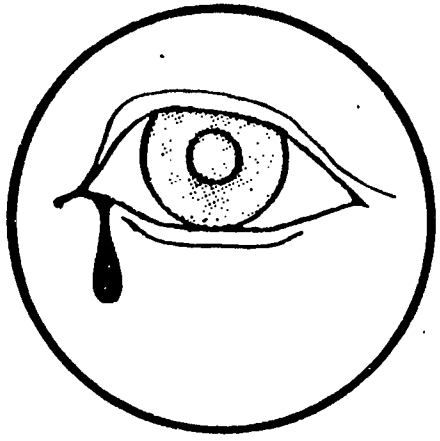
HIV INFECTION "ICEBERG"



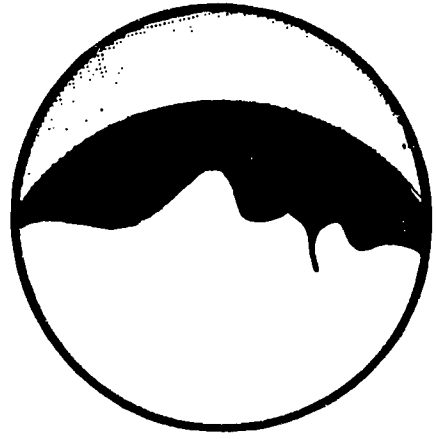
Low Risk Body Fluids



SALIVA



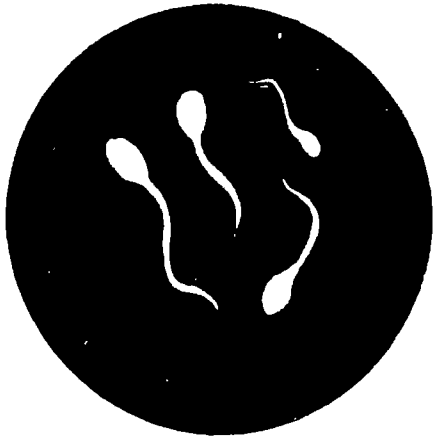
TEARS



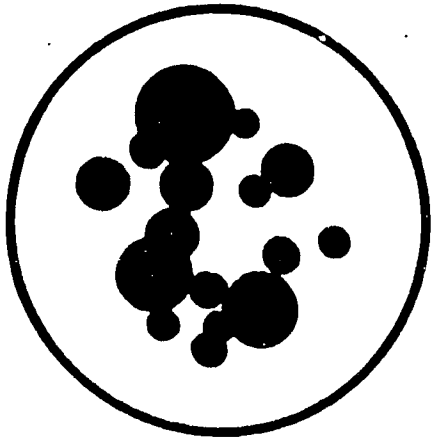
AMNIOTIC FLUID

FECES
URINE

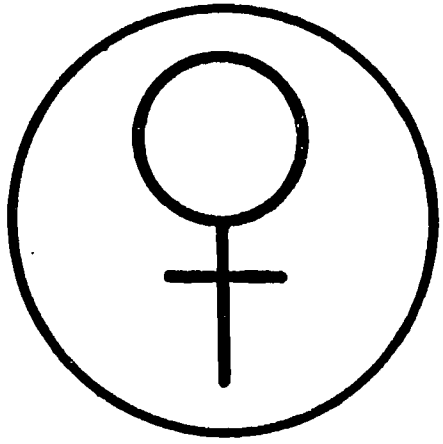
High Risk Body Fluids



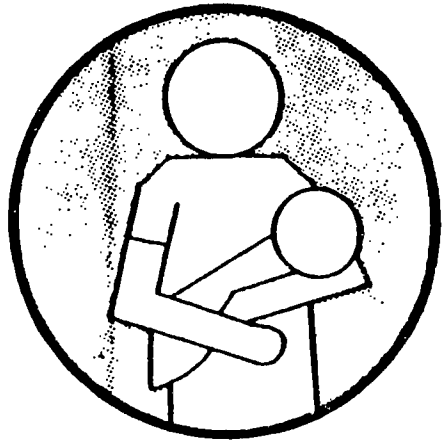
SEMEN



BLOOD

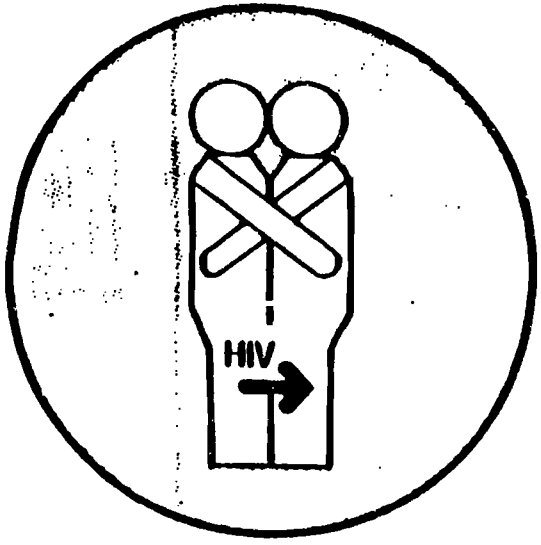


VAGINAL/CERVICAL SECRETIONS

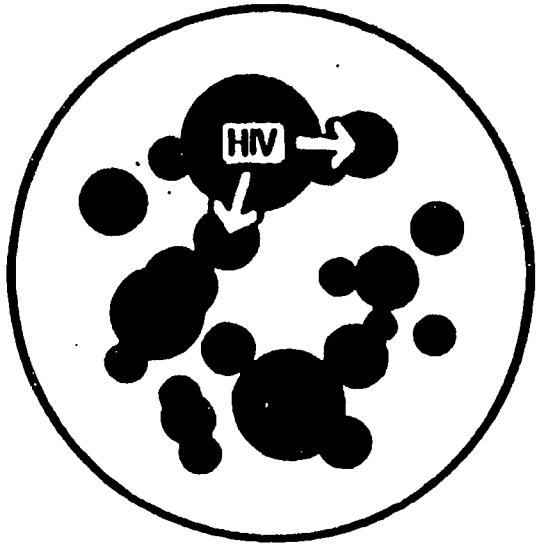


BREAST MILK

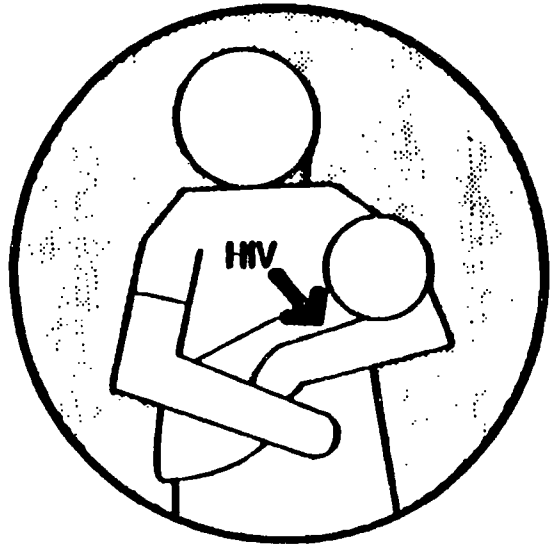
HIV is spread by:



SEXUAL CONTACT WITH AN INFECTED PERSON



INFECTED BLOOD



FROM INFECTED MOTHER TO FETUS/NEWBORN

Adult Risk Factors for AIDS

Risk Factor	Male	Female
Homosexual males	71%	–
Homosexual + IV Drug User	8%	–
IV Drug User	14%	49%
Hemophilia	1%	–
Transfusion	1%	11%
Heterosexual cases	2%	30%
Undetermined	2%	10%

Females in U.S. constitute < 7% of all diagnosed cases.

TEACHER INFORMATION

Levels of Infection

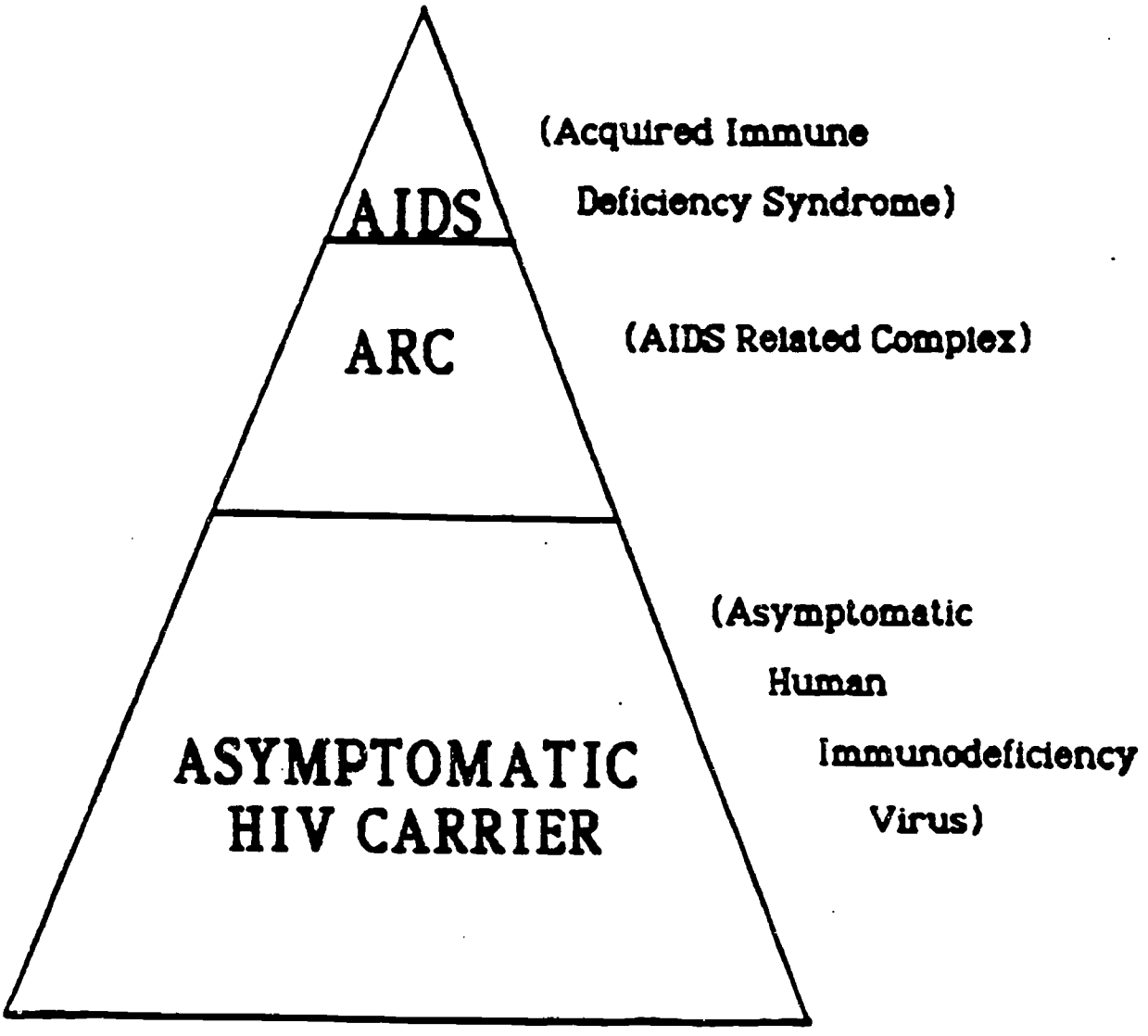
We have talked about 50,000 people diagnosed as having AIDS. It is estimated that as many as 2,000,000 people have been infected with the Human Immunodeficiency Virus (HIV). Persons infected with HIV may have symptoms from none to fatal. The asymptomatic HIV infected person is capable of transmitting the disease to others. At the present time, the majority of these people infected with HIV do not realize that they are infected.

Symptoms may occur any time after infection, from 1 week to over 7 years later. The term ARC, AIDS-related complex, is a term often used to describe symptoms in the HIV infected person that are less severe than those we associate with the disease AIDS. Many of the signs and symptoms of ARC are the same as for other diseases and only a physician can make the diagnosis on the basis of laboratory test results.

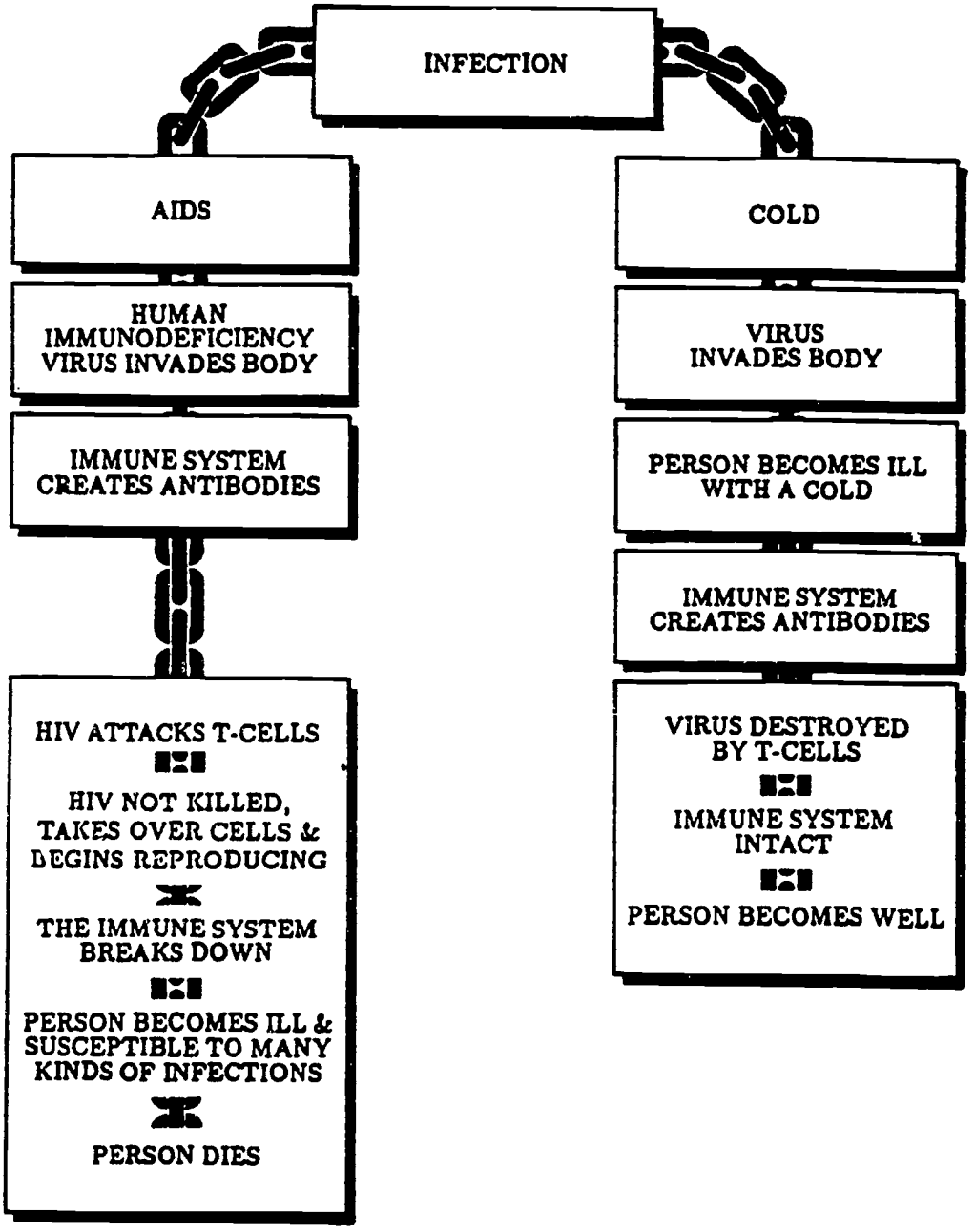
Of all the people infected with HIV at present, only 1-2% have full-blown AIDS. Only a qualified health professional can diagnose AIDS. AIDS destroys the body's immune (defense) system and allows otherwise controllable infections to invade the body and cause additional diseases. These opportunistic diseases would not otherwise gain a foothold in the body. These opportunistic diseases may eventually cause death.

Adapted from the "Surgeon General's Report on Acquired Immune Deficiency Syndrome", U.S. Department of Health and Human Services.
"AIDS Update", Evelyn Fisher, M.D., Henry Ford Hospital Medical Journal, Vol.35, No.1, 1987

LEVELS OF INFECTION



THE IMMUNE SYSTEM



TEACHER INFORMATION

AIDS: THE PREVENTABLE EPIDEMIC
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TEAM LEARNING STRATEGIES

Cooperative team learning is one strategy to use in presenting information and monitoring comprehension. It is recommended that students of varying abilities work together to accomplish an assigned task.

The process is as follows:

1. Teams are to cooperate in learning the terms and concepts in reading material.

2. Students will work as a group of 4 to find the correct answers to each question on the activity sheet.

3. If members of the group successfully score at a specified level, usually at 80-90% of possible correct, each team member will receive bonus points. (This promotes cooperation and peer assistance as well as positive pressure.)

4. In this particular cooperative team learning activity, students will be given an activity sheet to answer to assist them in learning the concepts from the assigned reading. They will be given time to work on completing the questions and then quizzed on the content at the beginning of tomorrow's lesson. If all team members score _____% on the quiz, all team members receive a bonus of 5 points. There is no competition among groups. The goal is for all students to succeed.

THE IMMUNE SYSTEM AND HUMAN IMMUNODEFICIENCY VIRUS

The immune system functions to protect the body from infection. It acts both to prevent infection and to reduce the severity of disease when infection occurs. Barriers such as skin and mucous membranes that prevent germs from entering the body are an important part of the immune system. Another major component of the immune system is the white blood cell. White blood cells, which are made in the bone marrow, are microscopic and circulate throughout the body in the blood stream. There are many types of white blood cells. Different types have different functions such as engulfing bacteria or producing poisons to kill parasites.

One type of white blood cell (called a B-lymphocyte) makes antibodies, which are specific molecules that attach to and help kill infecting micro-organisms (pathogens) like viruses and bacteria. In general, it is this production of antibodies that results in immunity and the ability to prevent repeated re-infection by the same pathogen.

Another type of white blood cell is the T-lymphocyte. A major function of T-lymphocytes is to control the activity of other white blood cells, and specifically to help activate cells such as B-lymphocytes when an infection is present and to deactivate them when the infection has been controlled.

After HIV enters the body, the virus recognizes and infects a specific T-lymphocyte called the T4 helper lymphocyte. After infecting a T4 lymphocyte, HIV may remain dormant for a variable period of time. For reasons that are not yet known, the virus may then reactivate, begin reproducing, and kill the T4 cell. If sufficient numbers of T4 cells are killed, the infected person's ability to activate the immune system may be diminished or lost and he or she may become increasingly unable to fight off infections. Eventually, the immune system becomes so impaired that even relatively harmless micro-organisms that exist normally in the human body are able to cause life-threatening illnesses.

SYMPTOMS OF AIDS AND ARC

The symptoms of AIDS and ARC develop as HIV progressively kills white blood cells and the immune system becomes unable to fight off infections and other illnesses. The difference between AIDS and ARC is primarily one of severity of immune system dysfunction. A person is given a diagnosis of ARC when they develop illnesses that indicate that their immune system is not functioning properly. Persons with ARC may be quite sick and may die without ever developing AIDS. A patient is given a diagnosis of AIDS when their immune system has become so affected that they develop one of several specific conditions that indicate critical immune system impairment. Most commonly, these specific conditions are infections caused by bacteria or other micro-organisms that normally live in the body but are unable to cause illness when the immune system is working normally. These organisms take advantage of a special circumstance or opportunity to cause disease, and thus the infections they cause are often called "opportunistic" infections. In persons with AIDS, these infections are usually life-threatening.

Persons with AIDS or ARC may experience one or more of the following:

Unexplained swollen glands (enlarged lymph nodes) lasting two months or longer.

Persistent fever, chills, and night sweats that recur and last several weeks to months.

Weight loss that exceeds ten pounds not caused by diet or exercise changes.

Unexplained and persistent fatigue.

Persistent diarrhea.

Persistent dry cough and shortness of breath.

Persistant infection.

White spots in the mouth.

Reddish-purple blotches on the skin, inside the mouth, nose, eyalids, and rectum.

An important point to emphasize is that these symptoms may also be caused by many other, less serious illnesses. No one who has these symptoms should assume that they have ARC or AIDS without seeing a docter to be checked for these other, less serious, and usually curable causes.

SPECTRUM OF DISEASE CAUSED BY HIV - "Iceberg Phenomenon"

An iceberg concept can be used to help explain the types of illness caused by HIV. It is best to discuss the AIDS cases first as the "tip of the iceberg." AIDS cases represent a small minority of the infected population. Next is ARC, which currently affects five to ten times as many persons as AIDS. Finally, there is the large percentage of persons, "under the water," who are HIV positive, and asymptomatic carriers. As the epidemic progresses, carriers and persons with ARC may progress to AIDS and recently infected persons will take their place. At least one quarter to a half of the people infected with HIV will develop AIDS within 5-10 years after becoming infected. If current trends continue, by the end of 1991, 270,000 people will have developed AIDS in the U.S. and 179,000 will have died.

IMPLICATIONS OF THE LARGEST INFECTED POPULATION BEING ASYMPTOMATIC CARRIERS

1. Since most HIV infected persons do not have symptoms but are still infectious to others, they may be unknowingly and silently spreading this epidemic to others.

2. The number of AIDS cases today is only a fraction of what will occur in the future. The health care system will be faced with providing space, medication, and other services for a large chronically ill population. Increased social services such as medicare and social security will be needed to pay for these services.

ORIGINS OF THE AIDS EPIDEMIC

No one knows for certain where or how the AIDS epidemic began. It is known that some people in Africa were infected several decades ago. (This is known because blood specimens collected then, stored frozen, and tested recently have shown evidence of the infection.) It is possible that the virus infected humans in Africa for many years before this first known proof of infection.

Some scientists believe HIV may have entered the human population from monkeys that contain a similar virus. This could have happened if an infected monkey bit a person or if a person was somehow accidentally exposed to an infected monkey's blood, for example while skinning it in preparation for cooking.

AIDS was first recognized in the U.S. in 1981. It is now realized, however, from testing of stored blood specimens, that some people in the U.S. were infected as early as the mid-1970's.

THE HIV ANTIBODY TEST

When HIV infects a person, antibodies to fight the infection are produced, usually within 4-12 weeks. Unfortunately, unlike most other antibodies, the antibodies against HIV are usually not effective in helping the body destroy the virus. This is at least partly because the virus can escape from antibodies by hiding inside the T4 lymphocyte.

Antibodies against HIV will persist indefinitely in the blood of persons who have been infected and can be detected by several different types of blood tests. These tests are called HIV antibody tests. A positive test means that antibodies are present and indicates that the person has been infected at some time in the past with HIV. HIV antibody tests do not indicate whether a person has or will develop ARC or AIDS.

Sometimes the tests used to determine if a person is infected with HIV are not conclusive. A test result may be falsely negative or falsely positive.

A false negative test incorrectly shows that a person has not been infected with HIV when he or she actually has been. For example, a person who has recently been infected may test negative because antibodies have not yet been produced. This person may believe that he or she is not infected with HIV. Yet, this person may be able to infect his or her partner.

A false positive test incorrectly shows that a person has been exposed to HIV when he or she actually has not. Persons who have not engaged in high risk behaviors usually test negative for HIV antibody. In the rare event that such an individual does test positive, there is a real chance the result may be inaccurate. It is for this reason that HIV antibody testing low-risk persons is not recommended.

Persons who have engaged in high risk behaviors (male homosexual contact, IV drug use) may benefit from HIV antibody testing, and certainly need to be counseled about HIV. Counseling and testing services are available free of charge from local county health departments in Oregon. Parental consent or knowledge is not required, and a person may be counseled anonymously. If someone is worried about going to his or her local health department, he or she can go to a health department in another county and receive the same services. An advance appointment is usually required, but there is no fee. You should not consider testing unless you believe you may have been exposed to a HIV during sexual contact or drug use.

AIDS: THE PREVENTABLE EPIDEMIC
GRADES 9-12

STUDENT ACTIVITY SHEET

NAME
GROUP MEMBERS

Directions: Work with your group to re-read the assigned pages and determine the correct answers for the following questions. Cooperate within your group to answer the questions and to learn the material. If the team scores above _____%, you will each receive bonus points.

1. AIDS, or acquired immunodeficiency syndrome is a _____

   caused by a _____.

2. The effect of this virus on the body is

3. A healthy immune system enables the body to

4. A virus is

5. Define pathogen

6. Describe why HIV is difficult to control

7. Describe the cycle of HIV on the body

8. Interpret the graph to determine approximately how many cases of AIDS were recorded or projected in the United States in each of the following years:

   1985:
   1989:
   1990:

   What conclusion can you make from this information?

9. Why has the attitude now changed to the idea that "AIDS does not discriminate?"

10. A diagnosis of AIDS depends on

11. Explain why a person can be infected with HIV and not know it or not have symptoms

12. Explain what the HIV antibody test shows

13. Define ARC, or AIDS-related complex

14. Describe the short-term and long-term effects of AIDS

    Short-term

    Long-term

TEACHER'S KEY

AIDS: THE PREVENTABLE EPIDEMIC
GRADES 9-12

STUDENT ACTIVITY SHEET

NAME
GROUP MEMBERS

Directions: Work with your group to re-read the assigned pages and determine the correct answers for the following questions. Cooperate within your group to answer the questions and to learn the material. If everyone scores above _____%, you will each receive bonus points.

1. AIDS, or acquired immunodeficiency syndrome is a communicable disease

   caused by a virus.

2. The effect of this virus on the body is

   a breakdown of the body's immune system. The virus destroys infection fighting cells in the body which may result in opportunistic diseases.

3. A healthy immune system enables the body to

   defend itself against most pathogens.

4. A virus is

   a microscopic organism that can reproduce only inside a living host cell.

5. Define pathogen

   A disease-causing organism.

6. Describe why HIV is difficult to control

   HIV is not a single isolated virus, but a group of similar and related viruses whose genetic makeup is different. The viruses constantly change in the laboratory setting making it difficult to control and develop effective vaccines.

7. Describe the cycle of HIV on the body

   After HIV enters the body, the virus recognizes and infects a specific T-lymphocyte called the T4 helper lymphocyte. After infecting a T4 lymphocyte, HIV may remain dormant for a variable period of time. For reasons that are not yet known, the virus may then reactivate, begin reproducing, and kill the T4 cell. If sufficient numbers of T4 cells are killed, the infected person's ability to activate the immune system may be diminished or lost and he or she may become increasingly unable to fight off infections. Eventually, the immune system becomes so impaired that even relatively harmless micro-organisms that exist normally in the human body are able to cause life-threatening illnesses.

8. Interpret the graph to determine approximately how many cases of AIDS were recorded or projected in the United States in each of the following years:

   1985: Approximately 35,000
   1989: Approximately 200,000
   1990: Approximately 250,000

   What conclusion can you make from this information?

   The number of AIDS cases is steadily growing and will continue to escalate in the near future.

9. Why has the attitude now changed to the idea that "AIDS does not discriminate?"

   The attitude has changed because individuals of any race or sex can get AIDS through engaging in high risk behaviors.

10. A diagnosis of AIDS depends on

    the symptoms of opportunistic diseases and the loss of immunity.

11. Explain why a person can be infected with HIV and not know it or not have symptoms

    A person might not know they are HIV positive because they don't consider his or her behaviors to be high risk, don't exhibit symptoms and feel healthy. Symptoms usually do not appear in a person until 5-7 years after infection.

12. Explain what the HIV antibody test shows

    The HIV antibody test detects the presence of HIV antibodies.

13. Define ARC, or AIDS-related complex

    ARC is a condition caused by HIV where the individual has early signs and symptoms of AIDS. Symptoms can include diarrhea, fatigue, lymphadenopathy and fever.

14. Describe the short-term and long-term effects of AIDS

    Short-term

    Students will provide a variety of answers based on medical and social implications.

    Long-term

    Students will provide a variety of answers based on medical and social implications.

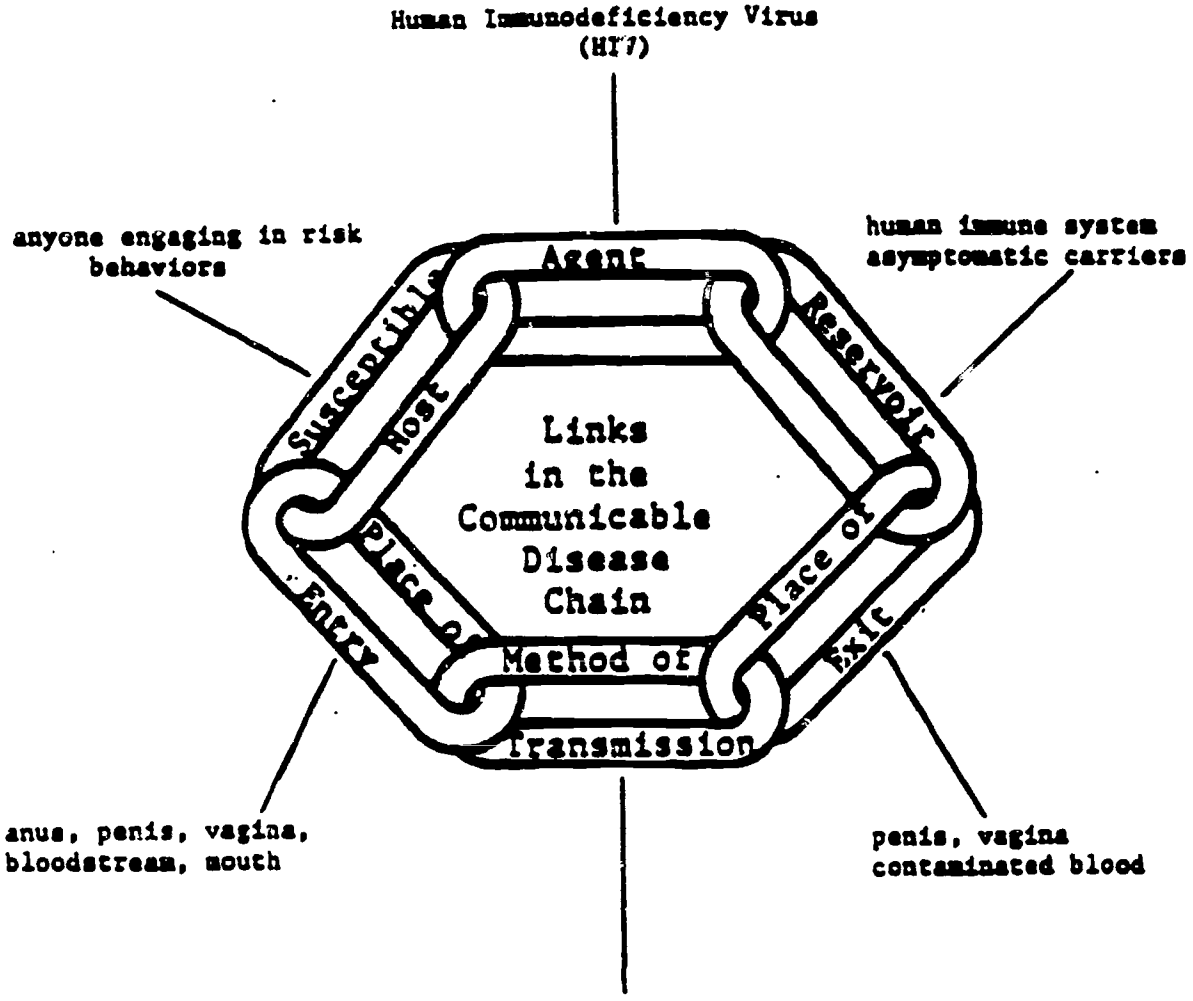
A — **Acquired,** *from someone else.*

I — **Immune,** *the body's defense system.*

D — **Deficiency,** *decreased defense.*

S — **Syndrome,** *a set of clinical and laboratory results.*

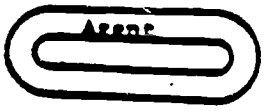
AIDS and the COMMUNICABLE DISEASE CHAIN



TEACHER INFORMATION

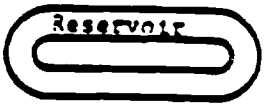
COMMUNICABLE DISEASE CHAIN

AIDS NARRATIVE



Human Immunodeficiency Virus (HIV) is known as the virus which causes AIDS. HIV is the most common and appropriate form use. However, there are several names used for this virus:

- HTLV-III - Human T-Lymphotropic Virus Type III
- LAV - Lymphadenopathy Associated Virus
- AIDS virus



A. Human Immune System and B. Asymptomatic carrier

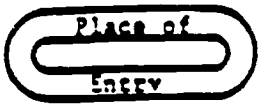
A. The immune system is the body's mechanism for defending itself against harmful germs. For most diseases you acquire immunity (the body's resistance to disease) after exposure to a germ (virus, bacteria, fungi or yeast). When a germ enters the body, the immune system produces antibodies. These antibodies attempt to destroy or neutralize the invading organism.

The immune system includes many body organs and tissues. Human blood is also part of the body's immune system which contains different types of white blood cells (T-cells) that help fight infection.

The Human Immunodeficiency Virus attacks a person's immune system through entering specific T-cells and damaging the person's ability to fight other diseases. Without a functioning immune system, the person now becomes vulnerable to becoming infected by opportunistic diseases which may cause life-threatening illness.

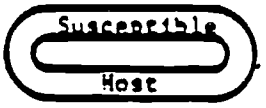
Life-threatening illness that ordinarily would never get a foothold cause "opportunistic disease" - using the opportunity of lowered resistance to infect and destroy.

B. A large number of people who are infected with the AIDS virus have no signs or symptoms. This may be as many as 2 million people. This asymptomatic reservoir of infected individuals are capable of spreading the infection through risk behaviors.



Anus, Penis, vagina, bloodstream, mouth

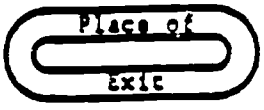
Although the HIV is found in several body fluids, a person acquires the virus during sexual contact involving an infected person's blood or semen and possibly vaginal secretions. The virus then enters a person's bloodstream through their rectum, vagina, penis, or mouth. Small (unseen by the naked eye) tears in the surface lining of the vagina or rectum may occur during intercourse thus opening an avenue for entrance of the virus directly into the bloodstream.



Anyone engaging in risk behaviors

The human immunodeficiency virus infects persons who expose themselves to known risk behaviors. Risk behaviors are a matter of individual choice. The epidemic is no longer limited to certain risk groups.

AIDS is everyone's concern.

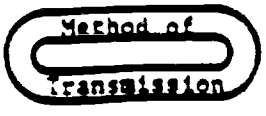


Penis, Vagina, Contaminated Blood

The human immunodeficiency virus is found in several body fluids, (semen, vaginal secretions and blood). During sexual contact an infected person's blood or semen and possibly vaginal secretions exit the body through the penis and vagina. The virus also exits the body through contaminated blood.

- on needles and syringes shared by drug users
- through contaminated blood products
- in blood donated for transfusion
- from pregnant women to unborn child

In March of 1985 a blood screening program was put into place to protect those receiving transfusions from contaminated blood.



Blood, semen, and vaginal secretions

HIV is transmitted by high risk behaviors:

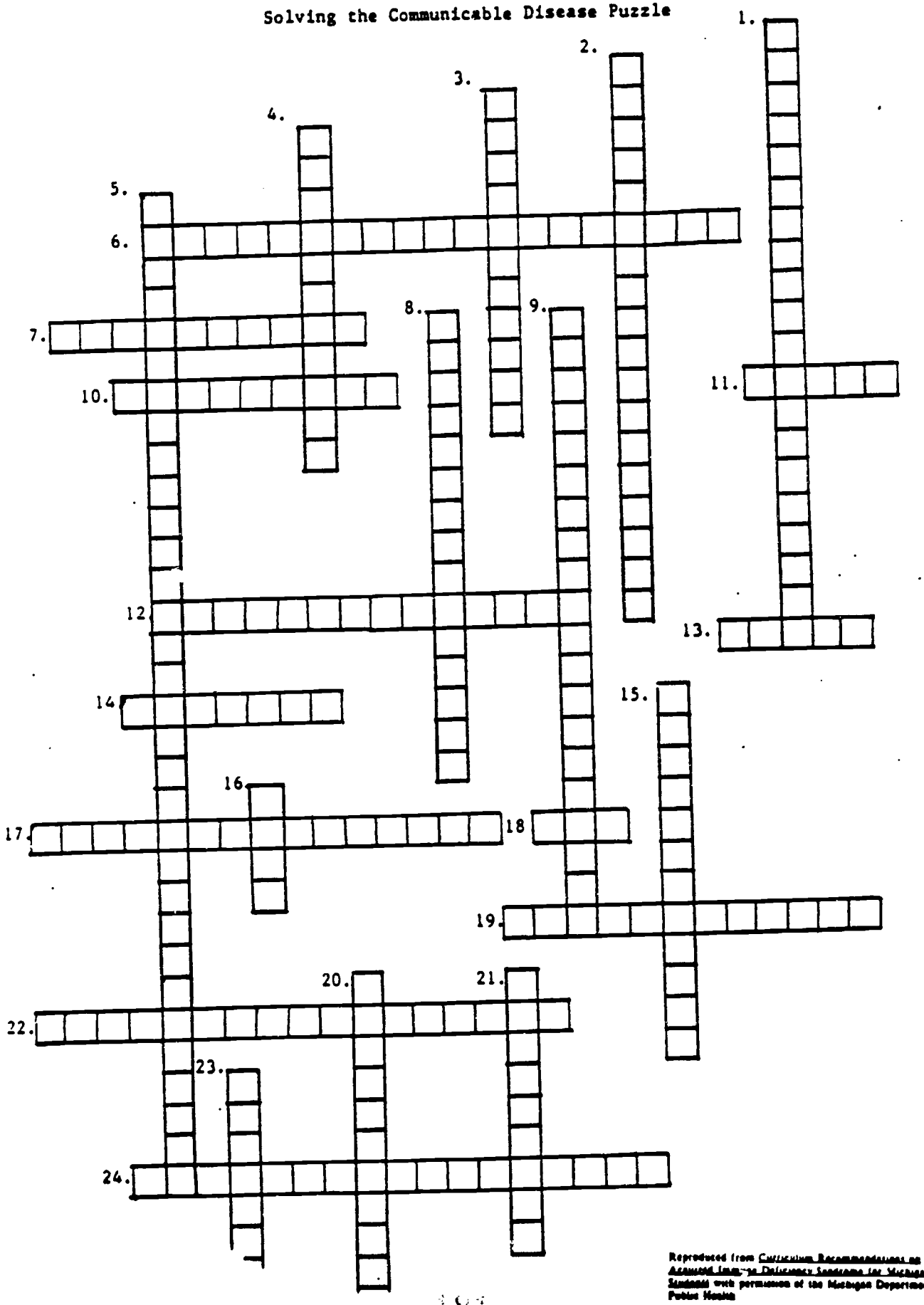
1. Unprotected sexual intercourse (heterosexually or homosexually)
2. By sharing needles and syringes for intravenous drug use.
3. Receiving contaminated blood products
4. HIV positive pregnant women to their unborn infants

HIV is not spread through casual contact - sweat, tears, drinking from the same glass, hugging, etc.

Engaging in risk behaviors or deciding to abstain from risk behaviors are personal choices that will determine if you are a person at risk.

Name

Solving the Communicable Disease Puzzle



Name

Solving the Communicable Disease Puzzle

DOWN

1. A disease that a healthy immune system would normally be able to fight. (2 words)
2. A condition caused by the AIDS virus in which a person tests positive and has symptoms only of the first stages of the disease AIDS. (3 words)
3. Where the germ leaves the reservoir. (3 words)
4. To have sent or cause to go from one person to another.
5. A communicable disease that results in a breakdown of the body's ability to fight infection. (4 words)
8. Part of the body's defense system.
9. People infected with the HIV who show no signs of disease.
15. The place where the germ enters the body. (3 words)
16. These letters stand for acquired immune deficiency syndrome.
20. Final test to confirm the presence of antibodies to HIV. (2 words)
21. Any place germs can live.
23. A condition which is not inherited.

Teacher Key (con't)

Solving the Communicable Disease Puzzle

DOWN

1. A disease that a healthy immune system would normally be able to fight. (2 words)
   opportunistic disease

2. A condition caused by the AIDS virus in which a person tests positive and has symptoms only of the first stages of the disease AIDS. (3 words)
   AIDS related complex

3. Where the germ leaves the reservoir. (3 words)
   place of exit

4. To have sent or cause to go from one person to another.
   transmitted

5. A communicable disease that results in a breakdown of the body's ability to fight infection. (4 words)
   acquired immune deficiency syndrome

8. Part of the body's defense system.
   white blood cells

9. People infected with the HIV who show no signs of disease. (2 words)
   asymptomatic carriers

15. The place where the germ enters the body. (3 words)
    place of entry

16. These letters stand for acquired immune deficiency syndrome.
    AIDS

20. Final test to confirm the presence of antibodies to HIV. (2 words)
    WESTERN blot

21. Any place germs can live.
    reservoir

23. A condition which is not inherited.
    acquired

Solving the Communicable Disease Puzzle

ACROSS

6. A disease that is passed from one person to another. (2 words)
communicable disease

7. A medicine which kills bacteria.
antibiotic

10. The time period occurring before and during birth.
perinatal

11. Sub-microscopic infective agent. Reproduces only in living cells.
virus

12. Test used to detect antibodies to HIV which is repeated if positive. (3 words)
ELISA blood test

13. The germ which produces an infection.
agent

14. Fear of AIDS.
AFRAIDS

17. Behaviors, conditions, environmental and inherited factors which make a person more likely to get a disease. (2 words)
susceptible host

18. The most widely used name for the AIDS virus. (abbreviation)
HIV

19. A behavior that threatens your health and increases your chances of becoming ill. (2 words)
risk behavior

22. The body system which acts to defend the body against attack by organisms that cause infection. (3 words)
human immune system

24. Sexual contact involving the genitals of at least one partner. (2 words)
sexual intercourse

Name

Solving the Communicable Disease Puzzle

ACROSS

6. A disease that is passed from one person to another. (2 words)

7. A medicine which kills bacteria.

10. The time period occurring before and during birth.

11. Sub-microscopic infective agent. Reproduces only in living cells.

12. Test used to detect antibodies to HIV which is repeated if positive. (3 words)

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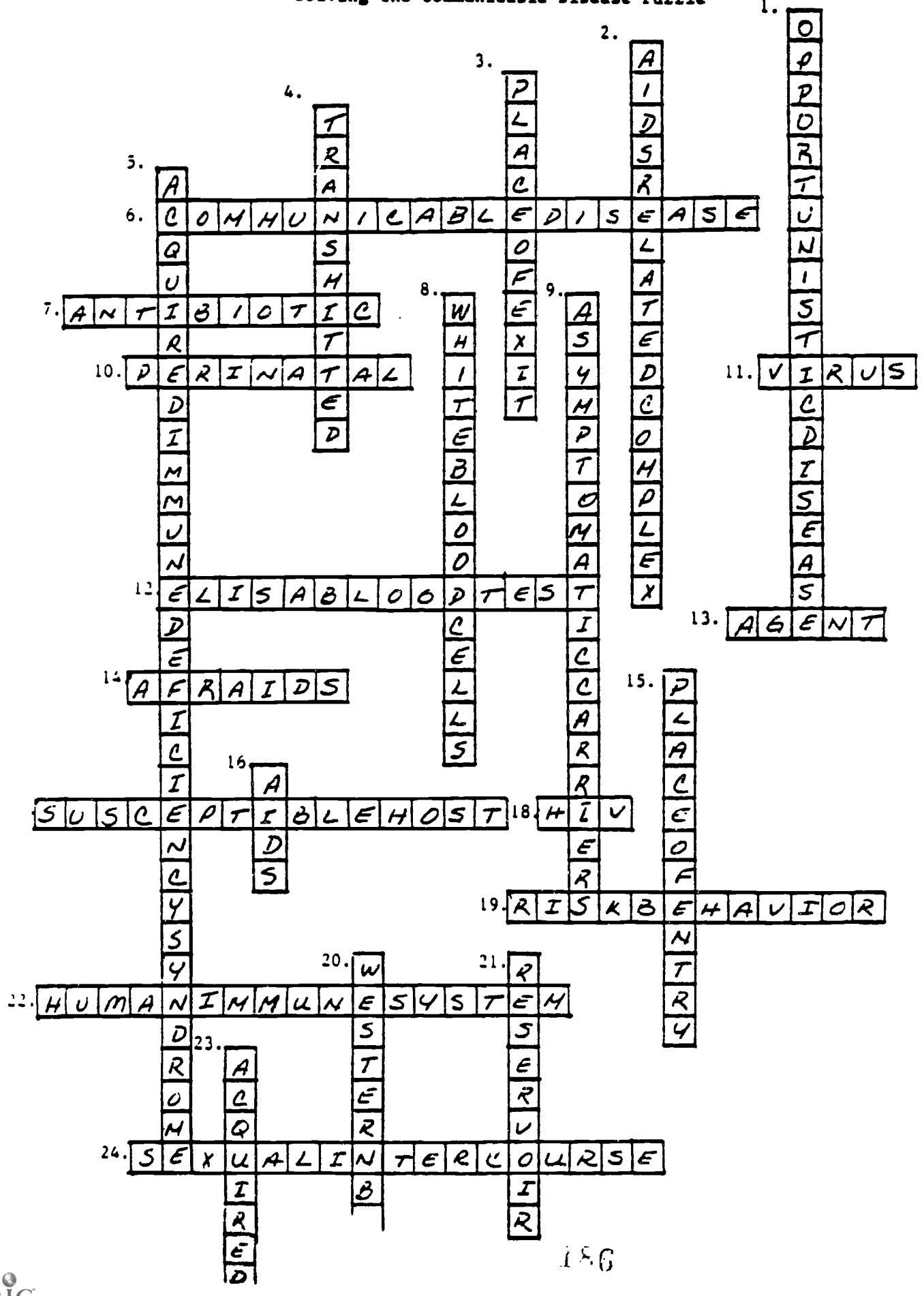
Solving the Communicable Disease Puzzle



GOAL II: Identify the methods of preventing, treating, and controlling diseases.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will:	1. Teacher Information pp. 270-271	
1. Understand the importance of abstaining from sexual activity until a mutually monogamous relationship is established within the context of marriage.	2. Teacher Information pp. 272-273	
2. Understand the importance of abstaining from illegal drug use.	3. Teacher Information pp. 274-279	
3. Identify behaviors that reduce the risk of acquiring HIV infection.	4. Teacher Information pp. 280-281	
4. Review and practice decision-making skills.	5. Teacher Information pp. 282-286	
	6. Students will complete a worksheet demonstrating decision-making skills. (Worksheet 9-12A)	

TEACHER INFORMATION

Objective	There are skills to practice which will lead to a healthful lifestyle.
Learner Outcome	Appreciate the value of delaying sexual activity.
Comprehensive Health Education Topic(s)	V Family Life Education
Values Integration	Reasoning: Understanding the advantages of delaying sexual activity. Respect for Self and Others: Making responsible decisions to abstain. Self-discipline: Delaying sexual activity.

Motivating Activity	Students will list reasons why young people might get involved in sexual activity, such as: • sexual attraction • societal pressures • peer pressure • pressure from a partner • family situations • mistaken beliefs • boredom • low self-esteem • drinking and drugs • loneliness • influence of soap operas and other media
Identification	Students will identify those reasons which are personal and those which are societal.
Effective Communication	Students will identify one reason and discuss how that problem can be dealt with in ways other than sexual activity.
Decision Making	Students will decide which reasons might relate to themselves.

Positive Health Behaviors	Students will appreciate the value of delaying sexual activity. Students will appreciate the need to be responsible for their own behavior and for the consequences it may have for themselves and other people.

Background

The purpose of this lesson is to explore some of the reasons why adolescents may engage in sexual activity. Students will need to recognize that personal and societal pressures often may make sexual activity look attractive—however, they need to recognize that there are positive behaviors, other than sexual, which can permit personal development and satisfaction.

Sex is not simply a form of stimulation and personal enjoyment, but carries with it both risk and responsibility. Abstinence is a lifestyle that affords greater opportunities for emotional, psychological, and educational growth.

Advantages of Abstinence

- free from pregnancy and venereal disease
- free from the bother and dangers of the pill, IUD, and other contraceptives
- free from pressure to marry before you are ready
- free from abortion
- free from the trauma of having to give your baby up for adoption
- free from exploitation by others
- free from guilt, doubt, disappointment, worry, rejection
- free to be in control of your life
- free to focus energy on establishing and realizing life goals
- free to develop a respect for self
- free to develop an unselfish sensitivity
- free to have greater trust in marriage
- free to enjoy being a teenager

Syllabus Connection

V Family Life Education – appreciating the role of the family in society and preparing each member for the responsibilities of family membership and adulthood, including marriage and parenthood. (pp. 26-27)

Values Integration

Reasoning/understanding the advantages of delaying sexual activity

Respect for self and others/making responsible decisions to abstain

Self-discipline/delaying sexual activity

TEACHER INFORMATION

Objective	There are methods of prevention for AIDS.
Learner Outcome	Understand how abstinence from illegal drug use can prevent the transmission of the AIDS virus.
Comprehensive Health Education Topic(s)	VI Diseases and Disorders VIII Alcohol, Tobacco, and Other Drug Substances
Values Integration	Respect for Self: Avoiding behaviors which put one at risk to exposure to the AIDS virus. Respect for Others: Avoiding behaviors which can result in the transfer of the AIDS virus to another person. Self-discipline: Abstaining from illegal drug use despite pressures.

Motivating Activity	Students will write an article for the school newspaper on how abstinence from illegal drug use can prevent the spread of the AIDS virus.
Identification	Students will identify drug practices that put a person at risk to be exposed to the AIDS virus.
Effective Communication	Students will discuss how drug practices increase the risk of exposure to the AIDS virus, why some people might continue the practices regardless of the AIDS risk, and how such individuals can be helped to change their behavior.
Decision Making	Students will decide to: • make decisions to avoid illegal drug use • not begin to use illegal drugs

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Positive Health Behaviors	Students will practice positive health behaviors to remove themselves from the possibility of exposure to the AIDS virus, such as: • resisting peer pressure • abstaining from illegal drug use • participating in activities that enhance self-esteem and self-worth • seeking help for problems or concerns

Teacher Vocabulary

Addiction – Habitual use of a substance (like IV drugs) and inability to stop the craving for such a substance.

AIDS – The initials for the disease "Acquired Immune Deficiency Syndrome." A disease caused by a virus which breaks down the body's immune system, making it vulnerable to opportunistic infections and cancer.

HIV – The Human Immunodeficiency Virus. It causes AIDS by attacking the body's immune system, making infected people vulnerable to fatal infections, cancer, and neurological disorders.

Illegal drugs – Drugs that are not obtained through legal means or for legitimate medical purposes.

Intravenous drugs – Drugs that are administered through a needle and syringe and injected directly into a vein and thus the bloodstream.

Needles and works – Devices used to prepare and inject drugs directly into the vein and thus into the bloodstream.

Opportunistic infection – An infection caused by a microorganism that rarely causes disease in persons with a normal immune system.

Risk factor – Activity that makes a person more susceptible or more likely to be exposed to the AIDS virus (HIV).

Transmission – The passing of infectious agents from one person to another.

Syllabus Connections

VI Diseases and Disorders – understanding diseases and disorders and taking actions to prevent or to limit their development. (pp. 28-29)

VIII Alcohol, Tobacco, and Other Drug Substances – understanding the factors involved in using drug substances appropriately and preventing abuse. (pp. 32-33)

Values Integration

Respect for self/avoiding behaviors that put one at risk to exposure to the AIDS virus

Respect for others/avoiding behaviors which can result in the transfer of the AIDS virus to another person

Self-discipline/abstaining from illegal drug use despite pressures

TEACHER INFORMATION

Background

This activity provides students with opportunities to practice skills in saying no in order to keep students from participating in behaviors that place them at risk for AIDS. So that as many students as possible may take an active part, divide the class into groups and assign one of the skits to each of the groups.

In the first skit situation (My boy-/girlfriend wants me to sleep with him/her. I'm not sure this is what I want to do.) have the students assigned that skit write down all the issues they see in the skit situation. Do the same for the second skit situation. (My friends are using drugs, but I'm scared to do drugs.)

After groups have identified issues in their small groups, list the issues on the board and have each of the groups present its skit with the identified issues. Then have students identify possible statements they can use to communicate that they do not wish to engage in such behaviors. List such statements on the board and then have students select the statements they would like to use to finish their skits, and have them finish acting out the solution to their skit.

Some possible solutions might be:

- Honestly convey thoughts, feelings, and desired outcomes, such as: "I still want to go out with you and I really like you, but I feel uncomfortable with having sex." This opens the doors for further communication.
- Make an excuse, such as: "I can't go out tonight." Excuses may work in the short run, but relationships that are long-term and growing depend on honesty for their nurturance.
- Avoid situations in which the behavior can occur, such as "partying" with friends.

Syllabus Connection

II Emotional Health – recognizing the relationships among emotional reactions, social relationships, and health for establishing patterns of behavior that promote emotional health and sound interpersonal relationships. (pp. 20-21)

V Family Life Education – appreciating the role of the family in society in preparing each member for the responsibilities of family membership and adulthood, including marriage and parenthood.

Values Integration

Respect for self/refusing to compromise beliefs that one holds as important, and avoiding behaviors that put one at risk for infection

Respect for others/acceptance of the values and beliefs of others

Self-discipline/making choices that value one's personal beliefs and health despite the pressures of others

Objective	There are skills to practice that will lead to a healthful lifestyle.
Learner Outcome	Practice skills in saying no.
Comprehensive Health Education Topic(s)	II Emotional Health V Family Life Education
Values Integration	Respect for Self: Refusing to compromise beliefs that one holds as important; avoiding behaviors that put one at risk for infection. Respect for Others: Acceptance of the values and beliefs of others. Self-discipline: Making choices that value one's personal beliefs and health despite the pressures of others.
Motivating Activity	The teacher will divide students into groups and provide students with the following skit situations to carry out: • We've been going together for two years. My boy-/girlfriend wants me to sleep with him/her. I love him/her, and I don't want to lose him/her, but I'm not sure this is what I want to do. • A lot of my friends are using drugs. I don't want to lose my friends, but I'm scared to do drugs.
Identification	Students will identify the issues in each skit situation.
Effective Communication	Student groups will present their skits to the class, without a solution to the situation.
Decision Making	Student audience will list possible ways to say no in skit situations and will decide which actions and words work best to say no. Students will practice ways to say no.
Positive Health Behaviors	Students will recognize and accept their own values. Students will be able to feel confident about their beliefs. Students will recognize situations when it is appropriate to say no and will practice how to say no.

TEACHER INFORMATION

Background This lesson zeroes in on the gaps in interpersonal communication that often exist between an intended message and the actual message that is conveyed. Students must recognize the unclear or "mixed" messages that result when their words are not backed by appropriate actions or when they choose words which do not clearly delineate their thoughts, feelings, or intentions.

Sending a clear message involves four elements:

- self-awareness: recognition of one's own feelings, thoughts, and desired outcomes in a situation
- words: choosing words which accurately convey the intended message
- body language: use of appropriate posture, gestures, eye contact
- actions: follow-through behavior.

Being mindful of the gap that can emerge between what one wants to say and what one actually says, students may need coaching with specific words and body language. The students in the s have a wealth of experiences and ideas they can bring to this activity.

Using this situation as a springboard, you may create your own situation based on your experiences with teenage students, or you may encourage students to pose their own situation for groups to work in. Role-playing is employed to reinforce the positive communication patterns for the rest of the class.

It may be helpful to define the following terms:

- desired outcome: what one wants to happen in a situation
- feeling: an emotional response usually expressed by one word, such as: happy, sad, angry, and scared
- clear message: a statement which clearly communicates a thought, feeling, or desired outcome. (Example: I feel hurt when I think you're ignoring me. I'd like you to understand that.)
- thought: ideas or beliefs that occur in our minds.

It is important for students to understand the meaning of these terms, as students at this age often confuse thoughts with feelings. Though feelings are usually an immediate response to a situation,

students need guidance in naming those feelings and in articulating their thoughts which may or may not be associated with those feelings.

Syllabus Connection

II Emotional Health – recognizing the relationships among emotional reactions, social relationships, and health for establishing patterns of behavior that promote emotional health and sound interpersonal relationships. (pp. 20-21)

XI Healthful Lifestyles – appreciating the need for responsibility and planning for developing and maintaining a healthful lifestyle. (pp. 38-39)

Values Integration

Respect for self/developing honest and clear communication patterns enhances one's self-confidence and reflects self-responsibility

Respect for others/recognizing the value of honesty in relationships

Objective	There are skills to practice that will lead to a healthful lifestyle.
Learner Outcome	Practice sending clear messages through effective verbal and non-verbal communication.
Comprehensive Health Education Topic(s)	II Emotional Health XI Healthful Lifestyles
Values Integration	Respect for Self: Developing honest and clear communication patterns enhances one's self-confidence and reflects self-responsibility. Respect for Others: Recognizing the value of honesty in relationships.

Motivating Activity

The teacher will pose the following situation to the class:

Alex and Gloria have been seeing each other for a few months. Gloria does not want to become any more involved physically than they have been, and she senses Alex does. She continues to spend a lot of time with him alone and puts herself in uncomfortable close encounters with Alex.

Identification

Students will identify the message Gloria may be giving Alex.

Students will discuss the four elements of a clear message:

- self-awareness:
  - –recognizing one's feeling in response to a situation
  - –knowing one's thought about a situation
  - –deciding what one wants in a situation
- words:
  - –choosing words which accurately convey the intended message
- body language:
  - –use of appropriate posture, gesture, eye contact
- actions:
  - –follow-through behavior

Effective Communication

Students will role-play Gloria's response to Alex by communicating her discomfort, her thoughts and concerns, and her preferences for the ways they spend time together.

	Students will match the nonverbal elements of tone, posture, gestures, and eye contact with their verbal message.
Decision Making	Students will decide on situations in their lives in which they may be giving mixed messages and when they can send a clear message instead.

Positive Health Behaviors	Students will take time to become aware of their feelings, thoughts, and desired outcomes in response to a situation. Students will use "I" statements and appropriate nonverbal signals to communicate their feelings, thoughts, and desired outcomes to others.

TEACHER INFORMATION

Objective There are skills to practice which lead to a healthful lifestyle.

Learner Outcome Recognize and evaluate media messages regarding sexuality.

Comprehensive Health Education Topic(s) V Family Life Education
XI Healthful Lifestyles

Values Integration Reasoning: Recognize explicit and implicit meanings of messages and images.

Respect for Self: Awareness and concern for one's sexuality as an ingredient of personal dignity.

Respect for Others: Awareness and concern for the sexuality of others as an ingredient of their personal dignity.

Motivating Activity Students will list two or three examples for each of these categories:

- movies
- soap operas or TV serials
- commercials
- music videos
- magazine advertisements

Identification With teachers, students will identify messages about sex or sexuality conveyed in the examples cited.

These might include:

- "Everybody does it" – Having sex is okay.
- "Sex is fun" – There are no painful consequences or risks associated with sexual behavior.
- "Sex sells" – It is what makes people and things attractive.

Effective Communication Students will discuss how these messages are communicated:

- directly or explicitly – through the words or behavior of an attractive person or character
- subtly or implicitly – through images, words, or behaviors which suggest sexual meanings or attempt to arouse sexual interest

Decision Making	Students will decide what effects such media messages have on the attitudes and behaviors of teenagers. Students will decide which messages reflect attitudes and behaviors that can mislead teenagers.
Positive Health Behaviors	Students will recognize explicit and implicit media messages regarding sexuality. Students will effectively analyze and evaluate for themselves the validity of sexual messages conveyed through the media.

ACTIVITIES.....

1. Review the previous lessons by asking the students to:

   A. Name the four ways AIDS is transmitted:
      - Unprotected sexual intercourse
      - Needle sharing
      - Contaminated blood and blood products
      - Pregnant woman to her unborn child

   B. Review the ways AIDS is not transmitted.

      There is no evidence to indicate that the Human Immunodeficiency Virus (HIV) is spread in any ways other than those listed above. Several long-term studies have been conducted with family members of people with AIDS. None of these family members have become infected through everyday contact. Therefore, people need not be concerned about casual transmission of the HIV through casual contact such as: sharing eating utensils, hair brushes or towels, or by being in public places such as: restaurants, schools, in elevators, or on public transportation.

2. Ask the students to explain what is meant by a "high risk behavior". What are some high risk behaviors that relate to AIDS?

   A. High risk behaviors: an action with great possibility of danger or harm.

   B. There are risk behaviors related to the transmission of AIDS that must be considered. It is important to point out that a person who is HIV infected may not have the disease AIDS. Yet, an infected person, having no signs and symptoms, may infect others by engaging in high risk behaviors. The following are considered to be high risk behaviors for contracting the HIV:

Unprotected Sexual Intercourse

- Sexual intercourse with an infected partner. During sexual intercourse the HIV can enter the bloodstream of the uninfected partner through tears in the linings in or near the vagina for a female and in the skin of the penis for a male.

- Anal intercourse with an infected partner. Anal intercourse is the placing of an erect penis into the anus of a partner. Rectal tissue can be easily torn during anal intercourse. This exposes tiny blood vessels that will allow HIV to enter the bloodstream from infected semen.

- Sexual intercourse with multiple partners or with someone who has had multiple partners. The greater number of sexual partners a person has or has had, the more likely that person is to eventually have sexual intercourse with someone who is HIV infected. A person also increases their risk of infection by having sexual intercourse with someone who has had multiple partners.

Sharing Needles	-	Sharing blood contaminated needles during intravenous drug use. When a person shares another person's needle and/or syringe to inject drugs, a small amount of a person's blood may remain on the needle or in the syringe and be injected directly into the other person's bloodstream. If that small amount of blood comes from a person who is HIV infected, it can be passed on to others sharing the needle. A person who becomes infected through intravenous drug use can also spread the virus through sexual contact.
Contaminated Blood Products	-	Transfusion with infected blood or blood products. Before March 1985, it was possible that persons receiving blood transfusions could become infected with AIDS. Since that time all donated blood in the United States is tested for the presence of HIV antibodies. At this time there is little risk that AIDS will be spread from a blood transfusion in the United States. AIDS cannot be contracted from donating blood, since disposable needles are always used to collect the blood. People who know they are HIV infected should not donate blood, semen, or body organs.
Pregnant Woman/ Unborn Child	-	Pregnancy of an infected woman. A woman infected with HIV is more likely to develop AIDS if she becomes pregnant. She may also pass the HIV from her blood to her fetus through the placenta. Approximately one third of the babies born to HIV infected mothers, whether or not she actually has AIDS, will become HIV infected. Most of the mothers of these babies were intravenous drug users.

3. Use the transparency and teacher key "AIDS Risk Reduction and Prevention Behaviors" and discuss with the students preventive measures that can be used to eliminate and/or reduce the risk in each of the above behaviors. Note: The teacher may want to use the chalkboard or a flip chart instead of the transparency to record student responses. With each risk behavior encourage the students to name behaviors that will either eliminate the risk or for those who choose to continue in the risk behavior will modify the risk. Write their suggestions on the transparency. Use the teacher key to help facilitate this discussion.

4. Discuss with the students that AIDS prevention includes the use of condoms to modify risk behavior. Use the following questions as a guideline to discuss the use of condoms.

How effective are condoms?

If used properly, they are very effective. Condoms have to be used from the beginning of sexual contact until the end. They then should be removed carefully. When the condom is put on the penis a space should be left at the top.

Each package of condoms contains directions for proper use.

Condoms should not be used with petroleum jelly, stored in a very warm or very cold place or kept for more than a year. All of these conditions increase the possibility of breakage.

Why do some sexually active people not use condoms?
They may be too embarrassed.

They may not know that condoms are an effective preventative for transmission of the HIV.

They may not think becoming infected with HIV could happen to them.

They may not be concerned about their partners.

They may think that there is something wrong with planning to have sexual intercourse.

Where do you buy condoms?
Drugstores, grocery stores, vending machines, or mail order.

Do you have to be 18 years old to buy condoms?
There is no age restraint for the purchase of condoms, nor is parent permission required.

5. Distribute copies of the student worksheet "Making Decisions About AIDS Prevention". Show the transparency from activity 3 "AIDS Risk Reduction and Prevention Behaviors" with the behaviors listed from that exercise. Have the students to use this as a resource for this activity.

   Ask the students to write a response to the appropriate number of "Dear Abby" letters depending on the time available. After they have finished writing, ask them to form pairs and share their responses with one another.

   If time permits, as a large group lead the students in a discussion of the following questions:

   a. What were some responses that you came up with in your pair? Which were most helpful? Least helpful?

   b. What did you learn from hearing other people's suggestions?

   c. How did you decide what to say in response to the letter?

   d. How would you want a friend to respond to you if you were asking for help about AIDS?

   e. Who would you turn to for advice in situations like these? Why would you choose this person?

SUMMARY:

The decisions to be sexually active or to use drugs have many implications including the risk of contracting AIDS. There are behaviors that we can choose to eliminate or modify risks. The choices we make should be made with a knowledge of facts about the risks and potential results.

AIDS Risk Reduction and Prevention Behaviors

High Risk Behaviors	Eliminate Risk	Modify Risk
1. Unprotected Sexual Intercourse a. Sexual intercourse with an infected partner b. Anal intercourse with an infected partner c. Sexual intercourse with - multiple partners - someone who has had multiple partners		
2. Sharing needles		
3. Contaminated blood and blood products		
4. Pregnant woman/unborn child		

Teacher Key

AIDS Risk Reduction and Prevention Behaviors

High Risk Behaviors	Eliminate Risk	Modify Risk
1. Unprotected Sexual Intercourse a. Sexual intercourse with an infected partner b. Anal intercourse with an infected partner c. Sexual intercourse with - multiple partners - someone who has had multiple partners	- Abstain from sexual intercourse (discuss the concept that we probably will not know if someone is infected) - Stop high risk behaviors	- Using condoms correctly - Using vaginal foam as a spermacide with a condom is more effective - Know the sexual history of your partner - Monogamous relationships (discuss the difficulty of knowing this at their age)
2. Sharing needles	- Abstain from using IV drugs - Abstain from using any illegal drugs	- Do not share needles or syringes - Do not use contaminated needles
3. Contaminated blood and blood products	- Same risk reduction and prevention behaviors as sharing needles - The risk of transmission of HIV via blood transfusion is very low, probably in the range of one per 60,000 units of blood or less with present antibody screening.	
4. Pregnant woman/unborn child	- If HIV infected do not become pregnant	

Name

Student Worksheet

Making Decisions About AIDS Prevention

I. Dear Abby,

I have been hearing alot about AIDS and I am worried about getting it. I am not sure how to keep from getting a disease like this, aside from not having sex. I am embarrassed about asking anyone else because I don't know what they will think of me. Will you help?

Signed,

Embarrassed

II. Dear Abby,

I am worried about getting AIDS. My boyfriend has an older brother who shoots drugs. His brother's friends hang out at their house on the weekends when no adults are around. I am not sure whether my boyfriend uses drugs or not. I like this guy alot, what should I do?

Signed,

Worried

III. Dear Abby,

My friend has asked me to spend the night at her house. I just heard today that her brother is now living there and he has AIDS. I'm afraid of going to her house. Can I get AIDS?

Signed,

Afraid

IV. Dear Abby,

I know you will tell me that I am too young to have sex, but it is to late now to hear that. I do not want to get AIDS and it is on my mind alot. What can I do to protect myself?

Signed,

Too Late

Worksheet 9-12 A

V. Dear Abby,

I have a friend who is sexually active. I am concerned about him because he hangs around with a crowd that is know to practice risky behaviors. I've heard about AIDS and my friend's behavior concerns me. What should I do?

Signed,

A Friend

VI. Dear Abby,

I have been seeing this person for a long time. I've gone out with other people all along, but this guy is special and I want to make a commitment to him. Do you think that I should tell him about the other guys?

Signed,

Special

VII. Dear Abby,

I have had sex with several partners. Now I realize that I could have AIDS and if I continue my behavior, I could give AIDS to my partner. What should I do?

Signed,

Reputation

VIII.
Dear Abby,

I went with a boy for 1½ years and we had a special relationship. Now I realize that our relationship will end soon. What can I do in the future to be sure that I will not get AIDS?

Signed,

Is It Too Late

NINTH - TWELFTH GRADE

GOAL III: Evaluate the effects of disease on individuals, families, communities, and societies.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will:		
1. Distinguish facts, myths, opinions, and unknowns relating to AIDS.	1. Students will complete a myth/fact worksheet. pp. 290-294 (Worksheet 9-12B)	
2. Examine ethical issues related to AIDS. a. right to know vs. confidentiality b. testing c. discrimination d. banking blood	2. Teacher Information pp. 295-297	
3. Examine the physical, emotional, and family needs of people with AIDS and the financial costs of caring for them.	3. Teacher will lead a discussion concerning the economics and ethics of AIDS. Students will complete the two worksheets to reinforce the discussion. pp. 298-309 (Worksheets 9-12C and 9-12D)	
4. Demonstrate ways in which they can show caring for a person with AIDS.	4. Teacher Information pp. 310-317	
	5. Teacher Information pp. 318-319	

TEACHER INFORMATION

Distribute the student worksheet "AIDS Testing Statements - Fact, Myth, Opinion, Unknown?". Tell the students to read the statements to decide which category best reflects each statement. Students should indicate their decision by placing an "X" in the appropriate blank space next to each statement.

Discuss responses and add the statements to the Fact, Myth, Opinion, and Unknown category lists on the board from Lesson One.

Student Worksheet

Name _____

AIDS Testing Statements - Fact, Myth, Opinion, Unknown?

Directions: Read each statement and place an "X" in the blank space under the heading which you think best reflects the statement.

	FACT	MYTH	OPINION	UNKNOWN
1. A HIV positive test means the person is probably infected with the HIV.	___	___	___	___
2. A positive test means a person has AIDS.	___	___	___	___
3. A positive test means the person has developed antibodies to the HIV and will definitely develop ARC and/or AIDS in the future.	___	___	___	___
4. A negative test means the person is not infected and will never develop the disease even if the person has participated in risk behaviors.	___	___	___	___
5. A negative test means the person is not infected or is infected, but has not produced antibodies.	___	___	___	___
6. Being tested for AIDS gives those engaged in risk behaviors better knowledge of whether they have been exposed to the HIV.	___	___	___	___
7. Being tested will serve as a "red flag" to make a person change sexual practices and practice "safe sex"	___	___	___	___
8. Testing contributes to AIDS research and knowledge.	___	___	___	___

Student Worksheet (con't)

Name _____

AIDS Testing Statements - Fact, Myth, Opinion, Unknown?

	FACT	MYTH	OPINION	UNKNOWN
9. Before being tested a person needs to consider how they might react to a positive result; how will it affect them, physically, mentally, and emotionally.	____	____	_____	_____
10. People who are not ready to deal with the emotional impact of the test results should not be tested.	____	____	_____	_____
11. People who do not participate in risk behaviors should not be tested.	____	____	_____	_____
12. A person with positive test results can be dismissed from or denied employment.	____	____	_____	_____
13. There are no groups required to take the test.	____	____	_____	_____
14. All people engaging in risk behaviors should take the test to find out if that results are positive or negative.	____	____	_____	_____
15. AIDS testing is actually a series of testing that can only confirm the presence of HIV antibodies if all tests are completed.	____	____	_____	_____

Teacher Key

AIDS Testing Statements - Fact, Myth, Opinion, Unknown?

Directions: Read each statement and place an "X" in the blank space under the heading which you think best reflects the statement.

	FACT	MYTH	OPINION	UNKNOWN
1. A HIV positive test means the person is probably infected with the HIV. (Since we are not sure what antibody status means, we have to assume that all positive HIV have the virus.)	X			
2. A positive HIV test means a person has AIDS. (this is not a test for AIDS)		X		
3. A positive test means the person has developed antibodies to the HIV and will definitely develop ARC and/or AIDS in the future. (A few researchers believe that everyone with positive HIV may get AIDS - this is not supported by current research.)		X	(X)	
4. A negative test means the person is not infected and will never develop the disease even if the person has participated in risk behaviors. (There are a small number of false results and there may be a delay in the test responding positive as long as 6 months after infection.)		X		
5. A negative test means the person is not infected or is infected, but has not produced antibodies.	X			
6. Being tested for AIDS gives those engaged in risk behaviors better knowledge of whether they have been exposed to the HIV.	X			
7. Being tested will serve as a "red flag" to make a person change sexual practices and practice "safe sex". (Some people may be motivated to change their behavior while others may not.)			X	
8. Testing contributes to AIDS research and knowledge. (Most research is done through blind (study participants unidentified) research rather than voluntary testing centers.	X		(X)	

AIDS Testing Statements - Fact, Myth, Opinion, Unknown?

		FACT	MYTH	OPINION	UNKNOWN
9.	Before being tested a person needs to consider how they might react to a positive result; how will it affect them, physically, mentally, and emotionally. (not everyone should be tested - they must be prepared to deal with the results.)	X			
10.	People who are not ready to deal with the emotional impact of the test results should not be tested. (Some people should wait until they have more infomation, time and counseling.)	X			
11.	People who do not participate in risk behaviors should not be tested. (Unless you have a specific reason to be tested it should not be done - false test results are more common in low risk groups.)	X			
12.	A person with positive test results can be dismissed from or denied employment. (the Michigan Handicappers' Civil Right Act protects them.)		X		
13.	There are no groups required to take the test. (Military, immigration and some insurance companies require tests.)		X		
14.	All people engaging in risk behaviors should take the test to find out if that results are positive or negative. (Taking the test is a personal choice, everyone should practice safer sex and avoid sharing needles.)			X	
15.	AIDS testing is actually a series of testing that can only confirm the presence of HIV antibodies if all tests are completed. (A positive HIV means the ELISA test was positive then repeated to confirm the results and then reactive on the Western blot test.)	X			

TEACHER INFORMATION

Background

The debate provides a vehicle for exploring social issues – in this case, the balance between the individual's rights and society's rights. It also provides an opportunity for students to recognize that there is a dual responsibility present: to protect oneself from becoming infected by the AIDS virus and to prevent communication of the AIDS virus to others.

Information for each debate team can be gained by research that will provide current, accurate facts from libraries, local health agencies, etc.

In the past, the individual's rights have predominated in such instances as:

- random drug testing
- nondiscrimination in housing, education, employment.

Society's rights have predominated in such instances as:

- inoculations against tetanus, diphtheria, rubella, etc. for school attendance
- child abuse reporting.

As a part of this lesson, the students will be debating and discussing the following items:

- The screening test reveals whether or not a person has developed antibodies to the AIDS virus. If positive, the test cannot predict whether an individual will remain asymptomatic, develop ARC, or develop AIDS; but, if the test is positive, the individual is capable of transmitting the AIDS virus. Often, a second test may be necessary to confirm results.
- Screening for the entire population would be costly and difficult to organize and accomplish in a short time. Screening would also have to be repeated periodically.
- Screening for selected population groups who may be at risk, (IV drug users, homosexuals, those planning to marry, pregnant women, health care workers, prisoners, prostitutes, immigrants etc.) might miss other individuals who could be spreading the disease.
- Screening and disclosure may result in damage to occupational, professional, or personal status.

(continued on next page)

- Screening cannot help the infected individual because there is no present cure for ARC or AIDS.
- Screening can prevent the spread of AIDS by permitting infected individuals to abstain from behaviors that put themselves and others at risk.
- Screening would allow for identification, notification, and counseling of others who may have been exposed to the person with AIDS, to prevent further spread of AIDS.
- Screening can alert women to whether or not they are carrying the AIDS infection and thus protect unborn babies from the risk of infection.
- Screening is presently required by the military and may be required for immigrants.
- Screening can disclose the numbers of people presently infected by the AIDS virus, allowing society to predict the services that will be necessary to meet the needs of infected people as they move through the continuum from asymptomatic to ARC to AIDS. Screening will also allow society to allocate adequate resources to meet those needs.

Syllabus Connection

X **Community Health** – understanding the importance of developing health services responsive to present and projected community needs and for becoming a contributor to the health of the community. (pp. 36-37)

Values Integration

Majority rule with respect for minority rights/balancing the individual's right to privacy with society's right for public health

Reasoning skills/thinking for oneself

Respect for others/appreciating diverse views

Objective	There are social and economic implications of AIDS.
Learner Outcome	Recognize a balance between rights of an individual and rights of society.
Comprehensive Health Education Topic(s)	X Community Health
Values Integration	Majority Rule with Respect for Minority Rights: Balancing the individuals's right of privacy with society's right for public health. Reasoning: Thinking for oneself. Respect for Others: Appreciating diverse views.

Motivating Activity	The class will hold a debate on the following topic: Resolved: that mandatory AIDS testing is necessary to protect our society.
Identification	Students will identify: 1. How is the AIDS virus transmitted? 2. What does AIDS testing confirm? 3. What are the rights of individuals in our society? 4. What rights does society have to protect itself from spread of disease?
Effective Communication	Students will debate and discuss the debate topic. After the debate, the students will complete the following: • I was surprised that _____. • I learned that _____. • I would like to know more about _____. Student will recognize that it is acceptable to hold either point of view.
Decision Making	The class will vote on whether or not mandatory AIDS testing is necessary to protect our society.

Positive Health Behaviors	Students will recognize the balance between the individual's rights and society's rights.

TEACHER INFORMATION

Grade 11-12

AIDS: Economics and Ethics

STUDENT LEARNING OBJECTIVES:

1. Students will examine the financial costs of caring for a person with AIDS.

2. Students will examine trends and ethical issues related to AIDS.

LESSON AT A GLANCE:

This lesson will allow students to clarify any facts and myths from previous discussions. Financial costs, future trends and ethical issues relating to AIDS will be examined.

VOCABULARY INTRODUCED IN THIS LESSON:

- civil rights
- congenital condition
- confidentiality
- diagnosed
- discrimination
- ethical
- hemophiliac
- insurees
- intravenous
- medicaid
- subsidized

MATERIALS/RESOURCES:

STUDENT WORKSHEETS:

"Financial Costs of Caring for a Person with AIDS from Diagnosis to Death"
"Mr. Daniel Has AIDS"
"Post-test - AIDS-Fact or Myth?"

TEACHER KEY:

"Financial Costs of Caring for a Person with AIDS from Diagnosis to Death"
"Mr. Daniel Has AIDS"
"Post-test - AIDS-Fact or Myth?"

TRANSPARENCY:

"AIDS Care Cost Dilemma"

Grade 11-12

ACTIVITIES.....

1. Have the students review the Fact, Myth, Opinion and Unknown category lists on the board. Allow statements to be moved with class concensus.

   Note: The opinion and unknowns that are left should be recognized as statements that may change to the fact or myth list in the future but are statements about which we do not have specific knowledge today.

2. Divide the class into small groups (2-3 students) and distribute the student worksheet "Financial Costs of Caring for a Person with AIDS". Assign each group a case study (A-D, repeat as necessary) to calculate the costs of AIDS.

   Have each group report the costs for their case study. Allow the class to discuss and compare the costs of the different case studies.

3. Distribute and discuss the student handout "AIDS Care Cost Dilemma" on projected costs and show the "AIDS Care Cost Dilemma" transparency. Identify and discuss questions that will need to be addressed by policy - makers and legislators very soon.

   a. Should health insurance be denied to people who are in high risk catagories?

   b. Should health insurance companies require testing of prospective insurees for the Human Immunodeficiency Virus?

   c. Should the state or federal government pay for the care of anyone who develops AIDS? i.e. through Medicaid

   Note: This discussion can be personalized (i.e. friend or family member who had a blood transfusion 7 year ago) if students feel that AIDS will never touch them.

4. Divide the class into four groups of students and give each group a copy of the student worksheet "Mr. Daniels Has AIDS". Have each group select a recorder, and develop answers to the three questions. Copies of the teacher resource "State Civil Rights Legislation - Michigan Handicappers' Civil Rights Act" may assist the students in developing their answer. A copy of the local school district's AIDS policy may also be of assistance for the groups.

   Give the students approximately ten minutes to formulate answers to the three questions on the worksheet. Bring the class back together and have the groups compare answers based on their knowledge.

Grade 11-12

Note: Administer the post-test, if a pre-test was given in Lesson One.

SUMMARY:

Explain to the students that all of us will be affected by the AIDS epidemic. Sometimes when discussing statistics, medical costs and research we forget the people who are suffering from - dying from this epidemic. All of us must be prepared to help others, to protect ourselves and the ones we love.

You may use this information about AIDS now or in the future, for yourself or for a friend.

The greatest protection against AIDS is to make decisions based on knowledge, not fear.

Grade 11-12
Student Worksheet

Name _____

Financial Costs of Caring for a Person with AIDS from Diagnosis to Death

The following are case studies which describe the lifestyles of people who have been diagnosed with AIDS. Calculate the direct costs (actual costs of medical bills, etc.) and the indirect costs (money lost in unearned wages, etc.) of caring for these people for 13 months (from diagnosis to death).

A. John is 25 years old. He has been shooting up drugs for 5 years. He has just been diagnosed with AIDS. John does not work regularly. He lives in a rooming house for $5 a day. He has no family to turn to for help nor health insurance. His hospital bills average $508 per day. He will be hospitalized 4 times, a total of 48 days, until his death. Calculate the following costs:

Direct Costs	Indirect Costs
	Salary
	Medical (hospital stays, MD's, medicine)
	Food
	Rent
	Clothes
	Travel/Transportation
	Funeral Costs
	Total

B. Tanya is 23 years old and has a six month old infant. Both Tanya and her baby have AIDS. Tanya is a single mother living on a $476 per month welfare check. She gets government subsidized health insurance for herself and the baby. She will be hospitalized 3 times, 10 days each, until her death. The baby will be in the hospital for a total of 75 days. Their hospital costs total $983 per day. Calculate the following:

Direct Costs	Indirect Costs
	Salary
	Medical (Hospital stays, MD's, medicine)
	Food
	Rent
	Clothes
	Travel/Transportation
	Funeral Costs
	Total

From: San Francisco Senior High AIDS Curriculum, 1987.

Name _____

C. Miguel is a 40 year old man with AIDS. He is single, is buying a home and makes $50,000 a year. His monthly house payment is $1,500 per month. He has private health insurance which covers 80% of his direct medical costs. He lives in a city that has many resources for people with AIDS, including food bank and shelters. He was hospitalized 5 times, for a total of 125 days at $1,038 per day. Calculate the following:

Direct Costs	Indirect Costs
	Salary
	Medical (Hospital stays, MD's, medicine)
	Food
	Rent
	Clothes
	Travel/Transportation
	Funeral Costs
	Total

D. Raymond is a 35 year old hemophiliac, married with two children, ages 3 and 5. He has AIDS, as does his wife and 3 year old child. The five year old is not sick. Raymond makes $30,000 a year, rents his home for $800 per month, and his family is covered by health insurance. The family has been hospitalized a total of 350 days at $850 per day. Calculate the following:

Direct Costs	Indirect Costs
	Salary
	Medical (Hospital stays, MD's, medicine)
	Food
	Rent
	Clothes
	Travel/Transportation
	Funeral Costs
	Total

Grade 11-12
Teacher Key

Financial Costs of Caring for a Person with AIDS from Diagnosis to Death

The following are case studies which describe the lifestyles of people who have been diagnosed with AIDS. Calculate the direct costs (actual costs of medical bills, etc.) and the indirect costs (money lost in unearned wages, etc.) of caring for these people for 13 months (from diagnosis to death).

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Direct Costs	Indirect Costs
	Salary
	Medical (hospital stays, MD's, medicine)
	Food
	Rent
	Clothes
	Travel/Transportation
	Funeral Costs
	Total

B. Tanya is 23 years old and has a six month old infant. Both Tanya and her baby have AIDS. Tanya is a single mother living on a $476 per month welfare check. She gets government subsidized health insurance for herself and the baby. She will be hospitalized 3 times, 10 days each, until her death. The baby will be in the hospital for a total of 75 days. Their hospital costs total $983 per day. Calculate the following:

Direct Costs	Indirect Costs
	Salary
	Medical (Hospital stays, MD's, medicine)
	Food
	Rent
	Clothes
	Travel/Transportation
	Funeral Costs
	Total

Note: EACH GROUP'S ANSWERS WILL VARY DEPENDING ON HOW THE STUDENTS COMPUTE THE COSTS.

From: San Francisco Senior High AIDS Curriculum, 1987.

C. Miguel is a 40 year old man with AIDS. He is single, is buying a home and makes $50,000 a year. His monthly house payment is $1,500 per month. He has private health insurance which covers 80% of his direct medical costs. He lives in a city that has many resources for people with AIDS, including food bank and shelters. He was hospitalized 5 times, for a total of 125 days at $1,038 per day. Calculate the following:

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	Salary
	Medical (Hospital stays, MD's, medicine)
	Food
	Rent
	Clothes
	Travel/Transportation
	Funeral Costs
	Total

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Direct Costs	Indirect Costs
	Salary
	Medical (Hospital stays, MD's, medicine)
	Food
	Rent
	Clothes
	Travel/Transportation
	Funeral Costs
	Total

Grade 11-12
Student Handout

AIDS Care Cost Dilemma

In 1986 the total medical costs for AIDS patients was $1.1 billion. It is estimated that this figure may rise to $8.5 billion or higher by 1991.

The costs today to provide care from time of diagnosis to death can easily reach $75,000 per patient. Just to provide an AIDS patient with the drug AZT can cost up to $10,000 a year. Private insurance companies claims for AIDS related care totaled an estimated $745 million or 1% of the total in 1986.

Private insurance companies will pay a sizable portion of the medical bills for those AIDS patients lucky enough to have insurance coverage. An estimate puts the companies annual share of AIDS-related medical costs at $10 billion in 1991 and at $20,000 billion in the year 2,000. To meet those insurance claims, the companies will have to raise the price of medical insurance for everyone they cover.

Most AIDS patients become too sick to work and will lose their private health insurance. However, up to 80 million Americans have no health insurance or are insured by plans that won't cover AIDS-related care.

Medicaid, funded by the federal and state governments, already pays for the care of 2 out of 5 AIDS patients. To qualify for Medicaid a person must have used up all but $1,000 of his/her savings. They can keep $1,500 for a burial fund.

Grade 11-12
Teacher Resource

AIDS Care Cost Dilemma

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Grade 11-12
Transparency Master

AIDS Care Cost Dilemma

A. Should health insurance be denied to people who are in high risk catagories?

B. Should insurance companies requiring testing of prospective insurees for the Human Immunodeficiency Virus (HIV) ?

C. Should the state or federal government pay for the care of anyone who develops AIDS? i.e. through Medicaid.

Grade 11-12
Student Worksheet

Name _____

Mr. Daniel Has AIDS

Mr. Daniels is a popular teacher in your school. He became ill last May and was absent from school for a few weeks. When he returned to school he looked thin and tired, but was back to teaching his classes. Because he is well known at school, his absence was noticed by many of the students. You are now beginning to hear rumors that Mr. Daniels has AIDS.

1. You are a student in one of Mr. Daniel's classes. Will you ask to be transferred out of his class? Why or why not?

2. Some parents hear the rumor Mr. Daniels has AIDS. They call a special meeting with the principal and insist that they be told if Mr. Daniels has AIDS. They also demand that he be asked to resign if he does have AIDS. What do you think you would do if you were the principal?

3. Should any special provisions be made for Mr. Daniels if he has AIDS? Should he be allowed to eat in the cafeteria with the students, use the swimming pool, go on field trips, and so on?

Adapted from: San Francisco Senior High AIDS Curriculum, 1987.

Grade 11-12
Teacher Key

Mr. Daniel Has AIDS

Mr. Daniels is a popular teacher in your school. He became ill last May and was absent from school for a few weeks. When he returned to school he looked thin and tired, but was back to teaching his classes. Because he is well known at school, his absence was noticed by many of the students. You are now beginning to hear rumors that Mr. Daniels has AIDS.

1. You are a student in one of Mr. Daniel's classes. Will you ask to be transferred out of his class? Why or why not?

2. Some parents hear the rumor Mr. Daniels has AIDS. They call a special meeting with the principal and insist that they be told if Mr. Daniels has AIDS. They also demand that he be asked to resign if he does have AIDS. What do you think you would do if you were the principal?

3. Should any special provisions be made for Mr. Daniels if he has AIDS? Should he be allowed to eat in the cafeteria with the students, use the swimming pool, go on field trips, and so on?

Note: ANSWERS MAY VARY.

Adapted from: San Francisco Senior High AIDS Curriculum, 1987.

TEACHER INFORMATION

Background

By identifying with a fictional family that must confront the reality of dealing with AIDS, this lesson seeks to help students recognize the responsibilities of family in a variety of concerns.

You may want to work with a chart, such as the one in this lesson, on which students can fill in information as they obtain it. As gaps appear in the chart (usually in the Community column), students may want to consider actions they may take to help the community recognize and provide for needs. This lesson will combine well with Lesson #35 in providing a bridge to actual community resources.

Students will probably recognize that many of the concerns dealing with AIDS are similar to concerns that families confront with long-term illnesses or disabilities, and students who have been through this process may be able to provide special insights. When using students as resources, be careful to recognize that they may still be dealing with some concerns and may be very sensitive. This lesson also provides an opportunity to deal with the fact that, at present, there is no cure for AIDS and that families will need to cope with death and dying.

Syllabus Connection

II Emotional Health – recognizing the relationships among emotional reactions, social relationships, and health for establishing patterns of behavior that promote emotional health and sound interpersonal relationships. (pp. 20-21)

V Family Life Education – appreciating the role of the family in society in preparing each member for the responsibilities of family membership and adulthood, including marriage and parenthood. (pp. 26-27)

VI Diseases and Disorders – understanding diseases and disorders and taking action to prevent or to limit their development. (pp. 28-29)

X Community Health – understanding the importance of developing health services responsive to present and projected community needs and for becoming a contributor to the health of the community. (pp. 36-37)

Values Integration

Respect for others/responsibilities to one's family

Respect for others/compassion, caring, and understanding

Respect for self/asking for help from individuals and groups that are able to provide assistance

FAMILY RESPONSIBILITIES

	INDIVIDUAL	FAMILY	COMMUNITY RESOURCES:
PHYSICAL CONCERNS AND NEEDS			
EMOTIONAL CONCERNS AND NEEDS			

FAMILY RESPONSIBILITIES

	INDIVIDUAL	FAMILY	COMMUNITY RESOURCES:
PHYSICAL CONCERNS AND NEEDS	Weakness Pain Inability to eat/drink	• Be familiar with how AIDS is communicated • Care for brother's needs • Respect his privacy • Spend time with him Reading Watching TV Talking Playing games Listening to music	• Participate in hospice and hospital support and treatment services • Participate in church and community organization outreach programs
EMOTIONAL CONCERNS AND NEEDS	Fear of AIDS Fear of other people's reactions Fear of death and dying Need for companionship	• Discuss AIDS with doctor, nurse, brother, family • Discuss AIDS with friends • Recognize and accept stages of dying Denial Anger Grief Acceptance • Support, as able • Financial Concerns	• Participate in AIDS support group • Use of social service programs

Objective	There are skills to practice that will lead to positive health behaviors.
Learner Outcome	Recognize responsibilities of a family when a member has AIDS.
Comprehensive Health Education Topic(s)	II Emotional Health V Family Life Education VI Diseases and Disorders X Community Health
Values Integration	Respect for Others: Responsibilities to one's family; compassion, caring, and understanding. Respect for Self: Asking for help from individuals and groups that are able to provide assistance.

Motivating Activity

The teacher will distribute a "Dear Sam" letter:

Dear Sam:

My brother was just diagnosed as having AIDS. He will be home from the hospital next week. What needs to be done to help him?

UPSET

Identification

Students will divide into groups to identify:

- physical concerns and needs
- emotional concerns and needs
- family concerns and needs
- community resources

Effective Communication

Students will discuss roles and responsibilities of family for each identified concern.

Students will draft a response to UPSET that reflects each aspect identified.

Decision Making

Students will decide how the family can meet the varying needs of the person with AIDS.

Positive Health Behaviors

Students will practice behaviors that involve understanding the needs of others and the need for sharing responsibilities, such as:

- accepting responsibility within family
- spending time with family member
- involving person in family activities
- utilizing community services

TEACHER INFORMATION

Background

In Lesson #34, students dealt with family responsibilities for persons with AIDS. This lesson confirms the present AIDS-related community resources and helps students to project what resources may be necessary in the coming years to meet the needs of increasing numbers of persons with AIDS. You'll find some of this data in the Appendix section on "Current Information on AIDS," but you will probably want to call the toll-free information number, 1-800-342-AIDS, or the New York State AIDS hotline number 1-800-541 AIDS, to get the latest figures. This information is also available through your local library or county health department.

This lesson provides a unique opportunity for students to watch a community respond to a crisis from the beginning, to identify community policymakers, to recognize the actions they are taking, and to participate in this process, as most communities are just beginning to recognize the size and implications of the AIDS epidemic.

You will want to remind your students that, at this time, once a person is infected with the AIDS virus, there are a variety of health and health-related services that may be needed.

The community has a responsibility to help the person with AIDS and his/her family to provide for their:

- physical needs and concerns
- emotional needs and concerns
- family needs and concerns.

The community has a responsibility to its members. It can provide this by having:

- accurate sources of information available in the community
- voluntary testing programs
- counseling services
- substance abuse treatment programs
- hospital/medical treatment services
- self-help groups
- social service supports
- mental health services.

Clearly there is no one "community" that can provide all of these services. Students will need to consider how each AIDS-related community resource fulfills a responsibility, where there are omissions, where there are overlaps, and what still remains to be done.

Syllabus Connection

X **Community Health** – understanding the importance of developing health services responsive to present and projected community needs and for becoming a contributor to the health of the community. (pp. 36-37)

Values Integration

Respect for self/responsibility to make oneself aware of threats to health, and community resources that can help

Reasoning/identify organizations which provide AIDS-related information for groups and individuals; resources directed to those who need; provide appropriate family and community support

TEACHER INFORMATION

Objective There are community resources for information, help, and counseling.

Learner Outcome Identify the community's present and projected responses to AIDS.

Comprehensive Health Education Topic(s) X Community Health

Values Integration Reasoning: Identify organizations which provide information for groups and individuals related to AIDS; resources directed to those who have needs; provide appropriate family and community support.

Respect for Self: Responsibility to make oneself aware of threats to health and community resources that can help.

Motivating Activity Students will research a list of AIDS-related community resources.

Identification Students will identify AIDS-related community resources currently in place:

- hospital
- county health agencies
- planned parenthood
- AIDS council
- religious organizations
- United Fund
- AIDS self-help support groups
- local chapter of American Red Cross
- local hemophilia chapter
- AIDS testing centers
- substance abuse treatment centers
- mental health centers
- hospices

Effective Communication The teacher will invite an AIDS resource person to discuss current community AIDS needs and how they are being met and to project future community needs based on AIDS data.

(continued on next page)

Decision Making	Students will decide whether the resources the community is providing will be adequate for projected AIDS needs in the next five years.
Positive Health Behaviors	Students will participate in community health practices by writing to appropriate agencies or volunteering their assistance to support AIDS-related community resources.

TEACHER INFORMATION

To set the stage with the students, explain that they should imagine that a friend of theirs has AIDS.

Ask the students to generate a list of ways they could show that they care about their friend. Write their ideas on the chalkboard. It may be helpful for students to begin with suggestions that are more distant from the person with AIDS (i.e. car washes, dances, bake sales) and move to more direct "caring" activities.

The list might include:

- Don't avoid your friend. Be there - it instills hope.
- Touch. A simple squeeze of the hand or hug can let your friend know that you still care.
- Laugh when your friend laughs. Weep when your friend weeps. Share these intimate experiences.
- Go for a walk together. Ask about and know your friend's limitations.
- Help celebrate holidays - and life - by decorating the home or hospital room.
- Help other people that know your friend. They may also be suffering. They may need someone to talk with as well.
- Don't be reluctant to ask about the illness. There may be a need to talk about your friend's condition. Find out if your friend would like to talk by asking: "Do you feel like talking about it?"
- Send a card that says "I Care!"
- Keep any promises you make.
- Be prepared for anger with you for "no obvious reason". Although you have been there and done everything you can. Permit this anger. Don't take it personally. Feel flattered that your friend is close enough to you to risk sharing anger or frustration.
- Talk about the future...tomorrow, next week, next year. Hope is important.
- Have a positive attitude. It is catching.
- Call and ask for a shopping list from your friend and make a "special delivery" to your friend's home.
- Be creative. Bring books, periodicals, taped music, a poster, home-baked cookies to share.
- Don't lecture or be angry if your friend seems to be handling the illness in a way that your think is inappropriate. Your friend may not be where you expect.

GOAL IV: Recognize the roles and responsibilities of local, state, and national health professionals, organizations, and agencies.

STUDENT OUTCOMES	POSSIBLE ACTIVITIES	TEACHER NOTES AND RESOURCES
Students will: 1. Compare health and health-related organizations which provide AIDS information for individuals and groups: a. Counseling services b. Self-help groups c. Social service support d. Testing programs e. Substance abuse treatment programs f. Mental health services g. Religious organizations h. Hot lines i. Hospital/medical treatment 2. Consider how each AIDS-related resource fulfills a responsibility, where there are omissions or overlaps, and what still remains to be done. 3. Discuss the issues related to the financial impact of AIDS on individuals, families, and societies.	1. Teacher Information p. 321 2. Teacher Information pp. 322-325 3. Invite resource people from local health-related organizations to speak to the class. 4. Students will design a poster that will inform various segments of the population (for example, elementary students, peers, the general public, or high-risk populations) about the nature of AIDS, the cost of the AIDS epidemic, high- and low-risk behaviors, the transmission of AIDS, etc.	NOTE: Information on the financial costs of AIDS (and predicted costs) are available from a number of sources; for example, Harvey V. Fineberg, "The Social Dimensions of AIDS," Scientific American, October 1988, pp. 128-134.

TEACHER INFORMATION

Refer the students to the previous discussions and ask them to begin thinking about what resources a person with AIDS might need.

Draw a circle on the chalkboard or use the transparency "Resource Needs". Have students list the needs of a person with AIDS. List these needs as additional circles on the chalkboard or with the circles on the transparency. Needs that are most important should be placed closed to the center, less important needs further away (friends, medical, funds, counseling, church). Then ask the students what organizations are available to help with these needs.

SUMMARY:

Whether or not you have the HIV will not change the fact that you will one day know someone who is effected by AIDS and who will need your help, support and caring. Be prepared to help that person.

NAME_____DATE_____CLASS_____

ACTIVITY: AIDS - Health Care Research Project

DIRECTIONS:

Contact an area health care facility that provides service to people with the AIDS virus. Report of the services available and care provided.

List Questions to Ask: Here are some examples:

Where can people with AIDS receive care?

How long is person normally hospitalized?

What is the course of treatment for AIDS?

Are there special precautions that health care providers take when caring for client with AIDS?

What is the cost per day?

What alternatives ware there to a hospital stay?

List Agencies and People to Interview:

List Materials to Collect:

Evaluate the Availability of Effective Services: Here are some questions:

What level of treatment services and support are available?

What would it be like to be a person with AIDS in your community?

Where are there gaps in the services? Is there any duplication of services?

If you were a person with AIDS virus infection, what would it be like to live in your community?

NOTE TO EDUCATOR:
Purpose: Analyze economic factors and quality of health care related to AIDS.

NAME_____DATE_____CLASS_____

ACTIVITY: AIDS - Where Can Help Be Found?

DIRECTIONS:

Research an agency what provides information about AIDS or provides help and support for a person with AIDS and family members.

Agencies and organizations that can be researched:

American Red Cross
Hemophilia Foundation
State Department of Health
Community or County Public Health Agency
Research programs at major universities
Support services in gay and lesbian groups
Community hospitals
Family social services at the local, regional and state levels
Religious groups

NOTE TO EDUCATOR:
Purpose: Access community resources.

NAME_____DATE_____CLASS_____

ACTIVITY: AIDS - Getting the Word Out

DIRECTIONS:

The local public health agency has asked you to help education the community about preventing and reducing the risk of AIDS. Please answer the following questions.

1. What messages about AIDS to you feel is the most important for people to receive?

2. What are your reasons for choosing this message?

3. How would you publicize this message to the community?

NOTE TO EDUCATOR:
Purpose: Apply concepts of prevention through development of a model program.

Directions: Create several teams in the classroom. Have each team develop a plan and present it to the rest of the class. Ask for critique of the plans, including aspects such as cost, timing, effectiveness of reaching the target groups, etc.

NAME_____DATE_____CLASS_____

ACTIVITY: AIDS - Make Your Message

DIRECTIONS:

You have been selected to design materials that will assist in preventing and reducing the risk of transmission of the AIDS virus and to prevent the negative impact of fear about AIDS.

1. Select an audience: young children, junior high students, college females, high school football players, your school's debate team, the youth group at your church or synagogue, the pep band, parents of students in your class, business men and women in the community, owners and workers of the fast-food restaurants in your area, students in alternative education programs in your area, or another group of your choosing.

2. Develop your message. In what high risk behaviors would people in the selected group participate? Include resources where people can seek services and/or more information.

3. Develop a dissemination plan. Consider the receptivity of the community, the cost and groups that could assist you.

NOTE TO EDUCATOR:
Purpose: Apply knowledge of prevention efforts; review ethical issues and community response.

Comment: Some examples are on the next pages: poster, pre-post test to peak interest of learners, business cards with hotline/helpline numbers.

GLOSSARY

HIV/AIDS Curriculum Glossary

Abstinence: Choosing not to have sexual intercourse.

Acyclovir: A drug used in the treatment of herpes infections; eases some of the symptoms of AIDS but has no effect on the virus that causes AIDS, HIV.

Agency: An establishment or government bureau that provides services to the public.

AIDS: Acquired Immune Deficiency Syndrome. The occurrence of certain infections or conditions that indicate a deficit in the body's defense mechanism, the cell-mediated immune system, occurring in a person with no known cause for diminished resistance to that infection or condition. This is a condition caused by an infection of a virus named HIV (Human Immunodeficiency Virus) which attacks and destroys certain cells in the body's immune system. The infections and conditions that would allow the diagnosis of AIDS include but are not limited to a rare pneumonia called PCP (Pneumocystis carinii pneumonia) and a rare cancer called Kaposi's sarcoma.

AIDS Dementia Complex: A complex progressive loss of intellectual function that is caused by HIV destroying brain tissue and other cells of the nervous system.

Anal Intercourse: Insertion of the penis into the rectum.

Antibody: A protein substance produced by B-cells in the immune system when T-helper cells identify the presence of foreign substances in the body, antigens. Their purpose is to neutralize the antigens and immunize the body against whatever infection the foreign substances may be trying to cause.

Antigen: Foreign substances which cause one's immune system to produce antibodies. Antigens can be bacteria, viruses, or other invading organisms or proteins not recognized by the body as part of itself.

Anxiety: Uneasiness caused by fear of danger or misfortune.

ARC: AIDS-Related Complex. A diagnosis given to people infected with HIV who have symptoms of the illness related to HIV infection (signs that the immune system is not working as well as it should be), but do not meet the diagnostic criteria necessary to be given the diagnosis of AIDS.

Asymptomatic Infection: Having an infection while exhibiting no noticeable signs or symptoms of the infection. While a person may be asymptomatically infected with HIV, they remain capable of transmitting HIV infection to others who engage in risk-associated activities with these people.

AZT: Azidothymidine. Zidovudine, also called Retrovir, is a drug used to inhibit the replication of HIV within the T-helper cells that HIV uses to reproduce itself. This drug is not 100% effective, does not eliminate the HIV that is already in the body, and has some harsh side effects.

Bacteria: Single-celled living micro-organisms which reproduce by dividing themselves. One bacterium, if left to its own devices, could become 250,000 bacteria in six hours assuming that the colony did not run out of food. This is not a large quantity in the bacterial world when one considers that 10,000,000,000,000 bacteria could fit into one cubic inch.

B-cells: Cells in the body's immune system that function as the antibody producers. They are instructed to produce antibodies by the branch of the T-family cells known as T-helper cells.

Behavior: The manor of conducting oneself or the way a person acts.

Bisexual: A person who has a sexual preference for both males and females.

Blood: The fluid that is actually "living tissue" that circulates in the heart, arteries, capillaries, and veins of animals.

Blood Donor: A person who gives blood to be stored and used for a transfusion to another person.

Blood Transfusion: The injecting of blood, such as in an operation, into another person.

Body Fluids: Liquid substances found in or produced by the body. HIV has been found in many of the body fluids of HIV infected individuals, such as tears, saliva, urine, semen, and blood, but HIV can only be transmitted in semen and blood or visibly blood contaminated other body fluids. HIV found in those body fluids that could transmit HIV must enter the uninfected person through an opening or wound in the uninfected persons skin and get into his/her blood stream before HIV infection can occur.

Bone Marrow: Tissue in the center of long bones of the body which both white blood cells (cells of the body's immune system) and red blood cells are formed.

Candidiasis: Infection caused by a fungus that resembles yeast and is the causative agent of thrush.

Carrier: A bearer and transmitter of a causative agent of a disease to which he/she is immune or shows no symptoms of having.

Casual Contact: The usual daily interaction between people at work, in school, and in social situations.

CDC: Centers for Disease Control. An organization which keeps tabs on diseases of all sorts wherever they may occur. Whenever any unusually large incidence of a sickness is noted, they sound the alarm and recommend vaccines of courses of prevention to help ward off or control epidemics. CDC headquarters are located in Atlanta, Georgia; their information is gathered from all over the world.

Cervix: The neck of the uterus that extends into the vagina.

Chlamydia: A sexually transmitted disease (STD) caused by a bacteria. It is one of the most common STD's and produces symptoms similar to gonorrhea, infecting mucosal linings of the body. It is a common cause of eye infections and pneumonias in newborn babies.

Cofactor: One of the elements of an illness or disease which is caused or enhanced by the presence of the element, but by itself, would not cause the illness or disease.

Communicable Disease: A disease that can be transmitted directly or indirectly from one person to another.

Condom: A sheath used to cover the penis and prevent the sharing of body fluids during intercourse, thus theoretically preventing the sharing of infectious body fluids. Condoms are usually made of latex rubber but some are made of other material. Only latex condoms are recommended to prevent the contact of HIV infected body fluids during intercourse.

Confidentiality: Keeping sensitive and private information from being released or disclosed, information which could cause prejudice or discrimination.

Contagious: A disease that can be spread through the air as well as by touch from one person to another. HIV/AIDS is not contagious in that it requires an actual exchange of body fluids.

Contaminated Needle: A needle that has been previously used, with infected blood left in the needle which will be passed to the next user. IV drug users often share needle to inject their drugs.

Cure: Elimination of a disease and the return to good health.

Cycle: An event or happening that repeats itself over a period of time.

Deterioration: Falling from a higher level of health to a lower level of health.

Disease: A particular destructive process in an organ, such as the brain, or organism, such as man, with a specific cause and characteristic symptoms; an illness.

Drug: A substance used a medication to cure, treat or prevent disease.

Drug Free: Choosing not to use harmful, illegal drugs for any reason.

Economics: A social science concerned with the production, distribution, and consumption of goods and services. The study of costs and benefits

ELISA: Enzyme-Linked Immunosorbent Assay. A test used to detect specific antibodies that react to HIV. The most inexpensive and widely used test to date.

Epidemic: An outbreak or the sudden, rapid spread, growth, or development of a disease.

Epidemiology: The study of the distribution and causes of diseases.

Ethics: The moral principles of a person or a group of people.

Exposed: Contact to an infectious agent. Exposure to an infectious agent does not always lead to infection.

False Negative: In a laboratory test, a result that reads negative when it should be positive. A type of erroneous result.

False Positive: In a laboratory test, a result that reads positive when it should be negative. A type of erroneous result.

Fetus: Unborn baby developing in the uterus after the end of the second month of pregnancy. Before eight weeks, it is called an embryo.

"Full-Blown" AIDS: Having symptoms that allow the diagnosis of AIDS.

Fungus: A microorganism that lacks chlorophyll (the green pigment found in plants). Commonly known members are molds and yeasts.

Genitals (Genitalia): Reproductive organs.

Germs: A virus, bacteria or fungus which can cause disease.

Gonorrhea: A sexually transmitted communicable disease which presents as an inflammation of the linings of the genitals (urethra, cervix and rectum). It is caused by a bacterium named Neisseria gonorrheae. May also be called the "clap".

Health: A condition of being free from physical disease or pain.

Helper-T Cells: T-Helper Cells. Cells in the body's immune system that identify invading organisms and instruct B-cells to produce antibodies which are specific to the invading antigen.

Hemophiliac: Someone having a hereditary condition in which the blood fails to clot normally. This condition is normally expressed in males.

Heterosexual: a person who has a sexual preference for someone of the opposite sex.

HIV: Human Immunodeficiency Virus. The accepted name for the virus responsible for causing AIDS.

Homophobia: Unreasonable fear of homosexuals.

Homosexual: A person who has a sexual preference for someone of the same sex.

Host: Any person in whom an infectious agent can live and multiply.

IFA: Immunofluorescent Assay. Laboratory technique used to identify the presence of antigens or antibodies in tissue using fluorescent dyes to "tag" their locations. One application is to detect HIV antibodies in blood samples. More difficult to perform and more expensive than the ELISA. Also believed to be more specific (can accurately identify samples without antibody) than the ELISA, so sometimes used to verify ELISA results.

Illegal Drugs: Drugs that are not obtained through legal means or for legitimate medical purposes.

Immunity: The capacity the body has to resist infection by viruses and bacteria.

Incubation: In a medical context, the length of time between an individual first being infected with a disease-causing organism and the development of clinical symptoms or disease. The incubation period for AIDS averages over five years.

Infected Partner: An individual who is infected with a communicable disease who has sex with or shares a dirty needle with another individual and may pass the infection to that person.

Infection: The result of a disease-causing organism invading a host organism and being able to replicate in the host. Replication of the disease-causing organism may or may not result in clinical disease.

Infectious Agent: An organism capable of causing an infection in a susceptible host.

Immune System: The body's system of defense against disease, consisting of specialized cells and proteins in the blood and other body fluids.

Immunity: Your body's ability to resist disease.

Immunization: A method of producing resistance to a disease, usually by vaccination or inoculation.

Intercourse: A type of sexual contact involving one of the following: (1) insertion of a man's penis into a woman's vagina, called "vaginal intercourse"; (2) placement of the mouth on the genitals of another person, called "oral intercourse"; or (3) insertion of a man's penis into the anus of another person, called "anal intercourse".

Intravenous Drugs: IV drugs. Drugs which are injected into a vein.

Intervention: To interfere with or prevent something from happening.

Kaposi's Sarcoma: A rare type of cancer that occurs as spots on the surface of the skin or in the mouth. These spots are generally purplish in color and closely resemble a bruise. It is an opportunistic disease often suffered by AIDS patients.

Latex: Rubber. A material from which most condoms are now manufactured.

Lubricant: In this context, a substance applied to condoms or sexual organs which makes contact between condom and skin slippery. Lubricants can be purchased in most places where condoms are sold. Use only water-based lubricants with condoms, and read labels carefully, any fats or oils will break down the latex and may cause the condom to tear.

Lymph Nodes: Glands located throughout a person's body that help in protection against disease.

Lymphocytes: A kind of white blood cell produced in bone marrow that aids in fighting disease.

Menstruation: Normal cyclical uterine bleeding which recurs at approximately four week intervals in non-pregnant females.

Method of Entry: Manner in which organisms enter the host's body.

Method of Exit: Manner in which organisms leave the host's body.

Misconceptions: Incorrect beliefs or ideas:

Mode of Transmission: Manner in which an infectious agent is transmitted from one person to another.

Monogamous Relationship: A relationship in which two people are fully committed to each other; they are not sexually active with anyone outside of their relationship.

Morals: Of or relating to principles of right and wrong behavior. Conforming to the standard of right behavior.

Myth: An explanation not based on fact.

Neurologic: Pertaining to the nervous system or brain. Persons infected with the AIDS virus often develop neurologic infection with symptoms such as forgetfulness, confusion, perceptual problems, lack of coordination or loss of muscle control.

Non-communicable Disease: A disease that cannot be transmitted from person to person.

Non-Oxynol 9: A spermicide which has also been shown to kill the AIDS virus in laboratory studies. Available in some sexual lubricants which can be used with condoms, non-oxynol 9 is not an effective AIDS prevention method used on its own. Concentration of 5% or more are recommended.

Opportunistic Infection: An infection caused by a microorganism that rarely causes disease in persons with a normal immune system.

Oral-Genital Intercourse: Stimulation of the genitals by the partners mouth.

Ostracize: To prevent someone from being part of your group.

Pandemic: An epidemic covering an extremely large area, world-wide.

Papilloma: A sexually transmitted disease (STD) rapidly increasing in young persons. Papilloma refers to virus-caused tumors such as venereal warts. This virus is one of the cofactors for cancer of the uterine cervix.

Pathogens: Organisms that cause disease; i.e. viruses, bacteria, and fungi.

Passive Immunity: Resistance to an infection brought about by the introduction of antibodies furnished by someone else whose immune system has created them to defeat disease. This is not vaccination (the stimulating of one's own immune system to produce antibodies), and is only a temporary measure to control infection.

Pathogenic: Relating to micro-organisms which can cause disease.

Peer Pressure: The influence that persons of the same age try to make on another person's decisions; can be healthful or harmful.

Penis: The male reproductive organ.

Perinatal Transmission: Transmission of disease from mother to infant occurring before or at the time of birth.

Physical: Relating to the body. (physical contact)

Placenta: An organ that provides the unborn baby with oxygen and nutrients from the mother's blood.

Pneumocystis carinii Pneumonia (PCP): The most common life-threatening opportunistic illness diagnosed in AIDS. Caused by a protozoan parasite, it creates difficulty in breathing and is the most common cause of death for people with AIDS.

Prevention: Not allowing a disease or condition to happen.

Prostitute: Someone who performs sexual acts for payment.

Pustules: A small raised pimple-like area on the skin which contains pus.

PWA: Person With AIDS. Many people with AIDS prefer this term to others like "AIDS victim", or "AIDS patient". They would rather see themselves as active participants in their treatment, not helpless victims who passively wait to die. They are whole and complete persons, and the term "patient" reduces them to little more than a case of disease.

Psychological: Directed toward the will or toward the mind.

Refusal Skills: Ways to say no to risk behaviors.

Reservoir: An organism in which another disease producing organism or parasite lives and reproduces without damaging or causing disease in its host.

Responsibility: The quality or state of being responsible as in a moral, legal or mental accountability.

Responsible Decisions: Decisions that promote wellness for you and others.

Retrovirus: A special kind of virus which works in a backward fashion to attack and become part of the cell that it lives and reproduces in. HIV is a retrovirus.

Risk Behavior: A behavior that threatens your health and increases your chances of becoming ill. Risk behaviors for acquiring HIV infection include having sexual relations with persons who you do not know and may be infected with HIV, and sharing IV drug needles with people.

Risk Situation: A circumstance that threatens you and your health. You may not have a choice about a risk situation.

Safer Sex: Sexual activity which protects one from infection with the AIDS virus (or any other Sexually Transmitted Disease). In safer sex no body fluids are exchanged.

Secretion: A substance generated from blood or cells which may have cleansing, lubricating or other characteristics.
Self Control: A person's ability to make responsible decisions and choose responsible behaviors that will promote their health.

Semen: A fluid from the male which leaves the body from the end of the penis; contains the sperm and carries the AIDS virus if the male is infected

Seroconversion: The change blood undergoes when the body develops antibodies to HIV after being infected by HIV. The blood changes from seronegative to seropositive, a process that takes from six to eight weeks, and may be as long as six months.

Sexual Intercourse: Physical sexual contact between individuals that involves the genitals of at least one partner. Includes vaginal intercourse, oral intercourse and anal intercourse.

Sexually Transmitted Disease (STD): Diseases which may be transmitted through sexual intercourse from an infected individual to a non-infected partner.

Sheepskin: Another name for a condom. Condoms made from latex are the only ones that provide adequate protection from STD's.

Societal: Related to the interaction of human beings living together as a community.

Spermicide: Any substance used to help prevent pregnancy because of its ability to kill sperm. One spermicide, non-oxynol 9, has also been shown to kill the AIDS virus in laboratory studies.

Spread: The transmission of disease from one person to another.

Statistics: Numerical data from a population about such things as disease occurrence and transmission which help to predict future occurrence and plan intervention strategies.

Support: To assist, help or comfort someone in a time of need.

Surveillance: In public health terms, monitoring and collecting data in incidence of disease. Essentially, counting the number of cases.

Susceptible Host: A person who has no natural protection against a disease producing organism or parasite.

Syndrome: A group of related problems or symptoms.

Syphilis: An STD caused by a bacteria called a spirochete. Untreated syphilis can result in damage to many organ systems of the body such as the heart and brain and may even result in death.

T-Helper Cells: A type of lymphocyte (white blood cell) that helps fight infection by triggering the production of antibodies.

Thrush: A whitish lining found on the surface of the mucous membranes and caused by the yeast-like fungus monilia.

Transfusion: The transfer of blood from one person to another.

Transmission: The passing of an infectious agent from one person to another.

Treatment: The administration of a medication which will kill the disease producing organism.

T-Suppressor Cell: A type of T-lymphocyte that stops antibody production when the invading antigen has been inactivated.

Uterus (womb): A hollow, muscular, pear shaped organ in females in which the unborn baby develops.

Vaccine: A substance that contains dead or weakened pathogens that cause the immune system to produce antibodies. In the future we may have vaccines which are genetically-engineered non-lethal forms of such organisms.

Vaginal Intercourse: Insertion of the erect penis into the vagina during sexual contact.

Vaginal Secretions: Fluids produced by the female genitals that provide moistness and lubrication of the vagina. These secretions may contain blood, especially if the female is menstruating (having her period) or has a vaginal infection. Blood tainted vaginal secretions of an HIV infected female may carry enough HIV to be infectious.

Viral Disease: An illness caused by a virus. Unlike a bacterial disease, which can be cured with antibiotics, viral diseases can only be regulated by the body's immune response. Examples of viral diseases are smallpox, rabies, polio, yellow fever, AIDS and the common cold. Many sexually transmitted diseases (STD's) are caused by viruses.

Virus: The smallest of the micro-organisms causing infectious disease. Viruses can only reproduce while living in and utilizing the genetic make-up of other cells.

Western blot Test: A confirmatory test to verify the correctness of an HIV antibody ELISA test. This test is more difficult to perform, and more expensive than the ELISA test.

White Blood Cells: Cells found in the blood that are essential to our immune system and prime targets of HIV. There are five kinds of white blood cells found in the human body, and they have an average life expectancy of two to four days.